



Fluid Control Solenoid Valves for Process Market



ENGINEERING YOUR SUCCESS.



The FCSE 1121UK Catalogue is a selection of Parker FCSE products dedicated to Process applications. General catalogue FCSE 0112UK is also available and contains a comprehensive list of Parker Fluid Control Products for other markets and general purpose applications.



WARNING - USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Who we are?

The Fluid Control Solution Europe (FCSE) is a Business Unit of Parker Hannifin, the global leader in motion and control technologies.

Our core competence is the development and manufacturing of an extremely diverse range of fluid control products, including solenoid valves and pressure regulators.

Where we are?

Our European headquarters are located in Gessate (Milan-Italy), this is also where our R&D, Marketing, Application Support and Product Management functions are located.

Our Products are mainly manufactured in Gessate (Milan - Italy). The Parker Sales Companies and comprehensive distribution network support you, wherever you are.

History

Parker FCSE has been a leading player in the manufacturing and development of solenoid valve technologies for over 60 years, with continuous research and development bringing innovative solutions to the marketplace, for example leading the way in the utilisation of synthetic ruby for critical water applications or the unsurpassed reliability and precision of our pressure regulators. The expertise accumulated and developed through the years is evident in the superior quality of our solutions.

Markets

Our products are typically designed for markets including Industrial Equipment, Industrial Automation, Mobile, Transportation, Life Sciences, Food & Beverage and for Fluid and Process Control.

Benefits

The modular concept of our products, having separate solenoid valves and electrical parts, provides the customer with increased flexibility by allowing numerous combinations. This additional flexibility can enable distributors to greatly reduce valve inventory levels, whilst retaining the same number of capabilities. Parker also has unrivalled experience in developing customised product solutions complying with the highest technical, environmental, energy and service life requirements.



PARKER FCSE - MILAN - ITALY

FLUID CONTROL SOLENOID VALVES FOR PROCESS MARKET

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MARKETS AND APPLICATIONS

PROCESS MARKET

The process market covers many different type of industries. Usually these industries prepare or modify raw materials, using different kind of processes.

The raw materials are very diverse, they can be gases, liquids, powders , fibers.

These material flow through process valves, that are controlled by pneumatic actuators, themselves operated by solenoid valves.



PROCESS INDUSTRIES

The industries covered are also very diverse: chemical and petrochemical, power generation, oil & gas, water & sewage, pulp & paper, food industry & pharmaceutical industry.

Plants can be indoor or outdoor, onshore or off shore, operating in harsh environments, with hazardous or safe areas.



PILOT VALVES

All these industries require valves that are efficient and reliable to control their process.

That is why we have designed a range of dedicated pilot valves that meetg all the requirements of the market.

This catalogue brings together the product we can offer. in order to help the customer to define and choose the right product for their application.



MARKETS AND APPLICATIONS

APPLICATIONS

The Primary application is pneumatic actuator control. Depending on the actuator type, the pilot valve required can be directly mounted on the actuator, following the NAMUR standard (VDI/VDE 3845), or externally connected to the actuator (piped valves).

The majority of pilot valves have a spring return, or fail safe, function.

For some specific applications, bistable valves are also available.



Our products can also be used in other applications such as; HVAC equipment, wellhead control panels, sampling and analyzing, fire dampers control.



BENEFITS

- Every valve body conforms to Mechanical ATEX EN 13 463-1 & 5
- Wide range of combinations valve + coil are SIL3 capable according IEC 61508 and can be used as safety valves
- ATEX electrical parts comply to European directive ATEX 2014/34/EU
- Majority of ATEX electrical parts comply to ATEX international scheme IECEx
- Electrical parts are modular: a coil can be disassembled from a valve very quickly, which is an advantage when the products have been installed, making service and maintenance simple.
- A single valve is able to receive different types of coils, including ATEX, which helps reduction of inventory for end users or distributors
- A coil or a valve can be ordered separately and assembled later by end users or distributors
- Material traceability certificate is available for Offshore applications



A MODULAR CONCEPT FOR EVERY APPLICATION

CHOOSE BETWEEN:

Actuation Modes

- Direct Operated
- Pilot Operated
- Manual Reset
- Externally Operated

Material Types

- Brass
- 303 Stainless St.
- 316L Stainless St.
- Anodized Aluminium
- POM

Mounting Solutions

- Pipe
- Sub-base
- ISO
- Banjo
- NAMUR

Control Functions

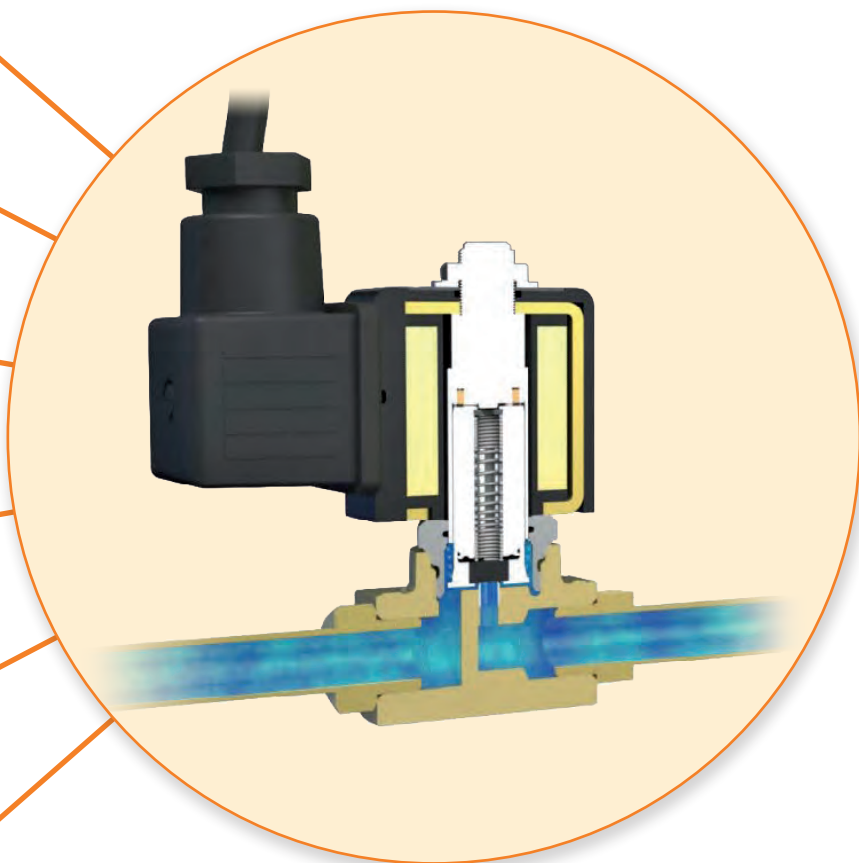
- Normally Closed
- Normally Open
- Universal
- Control by Electric Impulse
- Dual Solenoids

Internal Design

- Piston
- Poppet
- Diaphragm
- Spool

Seals

- FKM
- NBR
- EPDM
- Ruby
- PUR
- PCTFE...



ATEX CERTIFICATION



ELECTRICAL PART ATEX CERTIFICATION

A selection of electrical parts conform to the terms of the 2014/34/EU directive and are made for potentially explosive environments - zone 0/20, 1/21 and 2/22.

Within the coil section, the presence of the ATEX logo  shows that the coil is ATEX approved.

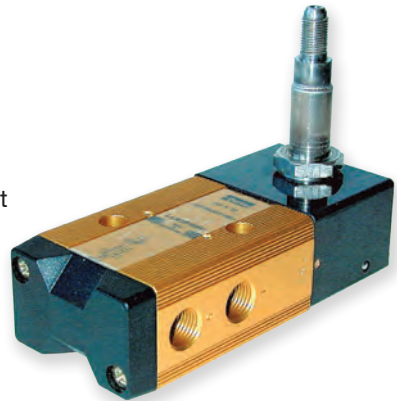


MECHANICAL PART ATEX CERTIFICATION

A selection of mechanical parts conform to the terms of the 2014/34/EU directive specific to non electrical equipment for use within potentially explosive environments - zones 0/20, 1/21 and 2/22.

NAMUR & piped valve ranges now include a marking which indicates mechanical ATEX approval.

Within the valve section, the presence of the ATEX logo  shows that the valve is ATEX approved.

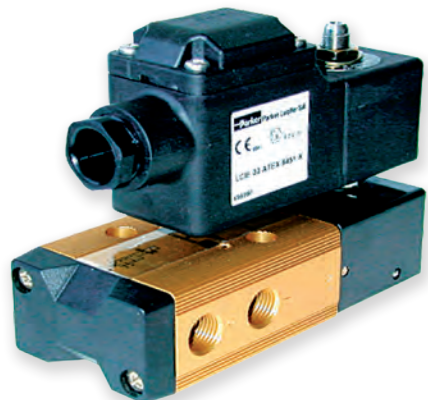


SOLENOID VALVE CERTIFICATION

When both the electrical and mechanical part are ATEX approved, the solenoid valve can be used in explosive atmospheres.

The solenoid valve will be delivered assembled and tested.

(Parker does not take the responsibility of assembly operations performed outside Parker plants)



PARKER FCSE IS MEETING WORLD CLASS STANDARDS

QUALITY STANDARDS

- ISO 9001
- ISO 14001
- OHSAS 18001

CERTIFICATIONS AND APPROVALS

Our products have been approved and are compliant with the relevant market requirements including:



- | | |
|-----------|----------|
| ● CE | ● AGA |
| ● ATEX | ● NEPSI |
| ● RoHS | ● KOSHA |
| ● UL | ● IMQ |
| ● REACH | ● NSF |
| ● IECEX | ● VDE |
| ● CSA | ● EX EAC |
| ● DIN-TUV | |



EXPLOSIVE ENVIRONMENTS



INTRODUCTION

The current European Directive concerning equipment to be installed in potentially explosive atmospheres is **2014/34/EU**. It came into force on April 19th, **2016**. With respect to the previous version, it implies the switching from EC to EU Declarations of Conformity and Type Examination Certificates; moreover, it better defines the manufacturer's, importer's and distributor's responsibilities.

Electrical and mechanical equipment for use in potentially explosive atmospheres is certified by a notified body in accordance to the relevant European technical standards concerning each protection mode (m, d, e, i, n, t, h), EN 60079-0 etc. After certification project completion, and EU Type Examination Certificate is released, entitling it to carry the distinctive marking.

EUROPEAN MEMBER COUNTRIES





DEFINITIONS

EXPLOSIVE ENVIRONMENTS

Mixture with air, under atmospheric conditions, of flammable substances in the form of gases, vapours, mists or dusts in which, after combustion has occurred, combustion spreads to the entire unburned mixture.

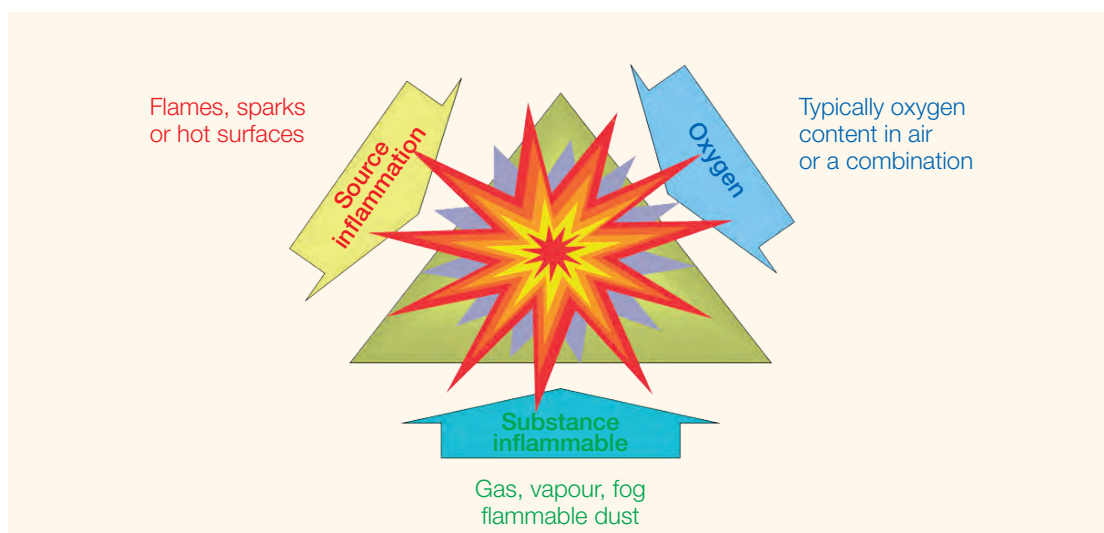
HAZARDOUS AREAS

A hazardous area is an area in which an explosive gas environment is present, or may be expected to be present, in quantities such as to require special precautions for construction, installation and use of electrical apparatus.

INGREDIENTS FOR AN EXPLOSION

- When combustible materials are mixed with air, an explosive mixture is produced. Danger of explosion therefore exists wherever these hazardous materials are handled: such a condition is to be found on the biggest chemical plant as well as at the smallest filling station.
- Nowadays with the use of electronic and electrical instrumentation in process control, the risk of combustion by electrical energy has increased sharply.
- To protect personnel and expensive equipment special precautions should be taken to prevent combustion of those dangerous substances. Conditions likely to ignite explosive mixtures are as follows:

Three conditions are enough to create an explosion.



EXPLOSIVE ENVIRONMENTS



DEFINITIONS

ZONES

The hazardous areas are classified in zones based on the frequency of the occurrence and the duration of an explosive gas environment as follows:

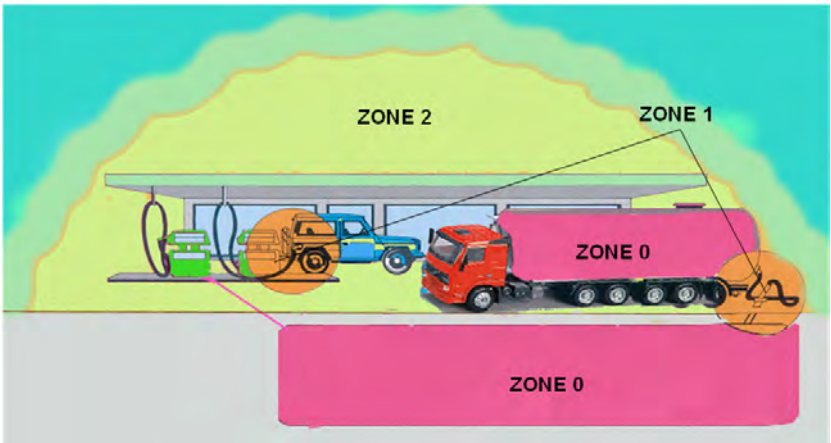
Zone 0 (20)	Zone 1 (21)	Zone 2 (22)
An area in which an explosive gas (dust) atmosphere is present CONTINUOUSLY or is present for LONG PERIODS (~1000 h/y).	An area in which an explosive gas (dust) atmosphere is present LIKELY TO OCCUR in normal operation (~10 to 999 h/y).	An area in which an explosive gas (dust) atmosphere is not LIKELY TO OCCUR and if it does occur it will exist for short period only (~1 to 10 h/y).
Mode of protection: ia - ta ...	Mode of protection: db - mb - eb - tb...	Mode of protection: ec - tc...

HAZARDOUS LOCATION CLASSIFICATION

Explosive Environment	Continuous Presence	Intermittent Presence (normal operation conditions)	Occasional Presence (abnormal operation)
IEC	Zone 0 (gas) Zone 20 (dust)	Zone 1 (gas) Zone 21 (dust)	Zone 2 (gas) Zone 22 (dust)
Europe	Zone 0 (gas) Zone 20 (dust)	Zone 1 (gas) Zone 21 (dust)	Zone 2 (gas) Zone 22 (dust)
Canada (CEC) ¹ USA (NEC) ²	Cl. I Div. 1 (gas) Cl. II Div. 1 (dust) Cl.III Div. 1 (fibres)	Cl. I Div. 1 (gas) Cl. II Div. 1 (dust) Cl.III Div. 1 (fibres)	Cl. I Div. 2 (gas) Cl. II Div. 2 (dust) Cl.III Div. 2 (fibres)

¹ (CEC): Code Canadien d'Electricité / ² (NEC): National Electrical Code

Example:





DEFINITIONS

HAZARDOUS LOCATION CLASSIFICATION

Category	Fault protection	Atmosphere	Zone	Example of protections
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EC Type examination by Notified Body → annex III

1 Very high level	2 types of protection or 2 independant faults	G (Gas)	0	"ia", "ta"...
		D (Dust)	20	

EC Type examination by Notified Body → annex III

2 High level	One type of protection Habitual frequent malfunction	G (Gas)	1	One type of protection "db", "mb", "tb"...
		D (Dust)	21	

Internal production inspection → EC declaration of conformity

3 Normal	Required level of protection	G (Gas)	2	"ec", "tc"...
		D (Dust)	22	

Hazardous Location Classification

Group	Gas Reference
I	Methane
IIA	Propane
IIB	Ethylene
IIC	Hydrogen / Acetylene

Hazardous Location Classification

Group	Dust Reference
-	-
IIA	Fibres
IIB	Non-conductive dust
IIC	Conductive dust

Surface Temperature Classes

Class Temperature	Max. Temperature	°C	Gas & Ignition Temperature	
T1	450°C	600	560°C Hydrogen	T1
T2	300°C	500	537°C Methane	T1
T3	200°C	400	425°C Ethylene	T2
T4	135°C	300	305°C Acetylene	T2
T5	100°C	200	210°C Kerozene	T3
T6	85°C	100	160°C Ethylether	T4
		0	95°C Carbon disulphide	T6



PROTECTION MODES IN PARKER FCSE PRODUCTS

Concept	Code		Zones	
	Gas	Dust	Gas	Dust
Flameproof enclosure	db	tb	1/2	21/22
Encapsulation	mb	tb	0/1/2	20/21/22
Increased Safety	eb	tb	1/2	21/22
Intrinsic Safety	ia	ta	0/1/2	20/21/22
Concept Cat.3 apparatus	nc	tc	2	22
Mechanical Part	h	h	0/1/2	20/21/22

In red, protection modes used by Parker FCSE.



STANDARDS AND PROTECTION MODES

ELECTRICAL EQUIPMENT FOR EXPLOSIVE GAS ATMOSPHERE EQUIPMENT GROUP II

EPL	Standards EN / IEC	Protection	Title
Ga	60079-0	-	General requirements
	60079-11	ia	Intrinsic safety
	-	-	-
	-	-	-
Gb	60079-1	db	Flameproof enclosures
	60079-7	eb	Increased safety
	60079-18	mb	Encapsulation
Gc	60079-7	ec	Increased safety
	60079-15	nc	Non sparking (C) or protected sparking (A)
	-	-	-

EPL = Equipement Protection Level

In red, protection modes used by Parker FCSE.

EXPLOSIVE ENVIRONMENTS



STANDARDS AND PROTECTION MODES

ELECTRICAL EQUIPMENT FOR EXPLOSIVE DUST ATMOSPHERE - EQUIPMENT GROUP III

EPL	Standards EN / IEC	Protection	Title
Da	60079-0	-	General requirements
	60079-31	ta	Protection by enclosure
	60079-11	ia	Intrinsic safety
	-	-	-
Db	60079-31	tb	Protection by enclosure
	60079-18	mb	Protection by encapsulation
	-	-	-
Dc	60079-31	tc	Protection by enclosure
	-	-	-
	-	-	-

EPL = Equipement Protection Level

In red, protection modes used by Parker FCSE.

NON ELECTRICAL EQUIPMENT FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERE

Standards	Protection	Title
ISO / EN ISO 80079-36	h	Basic method and requirement
ISO / EN ISO 80079-37	c, b, k	Constructional safety, control of ignition sources, liquid immersion

ZONES AND EQUIPEMENT PROTECTION LEVEL (EPL)

Zone	Gas	EPL	Zone	Dust	EPL
0		Ga	20		Da
1		Ga and Gb	21		Da and Db
2		Ga, Gb and Gc	22		Da, Db and Dc

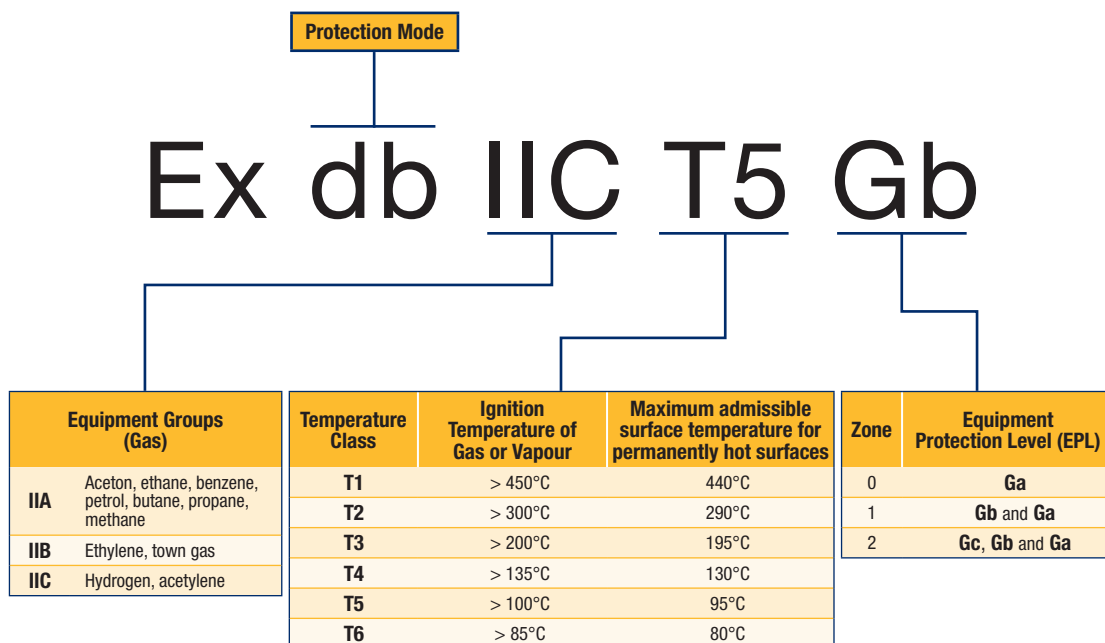
CATEGORIES AND EQUIPEMENT PROTECTION LEVEL (EPL)

Categories	Gas	Dust	Safety
1	Ga	Da	Very high
2	Gb	Db	High
3	Gc	Dc	Normal

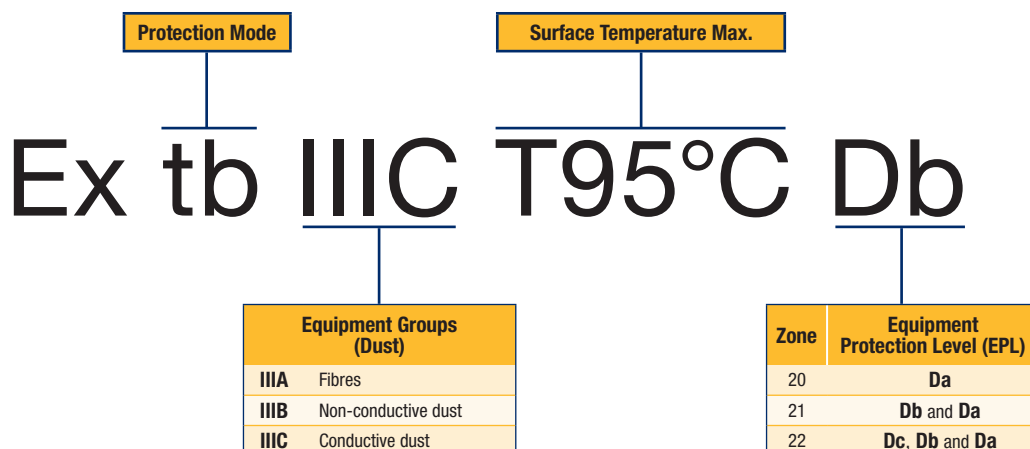


EXAMPLES OF MARKING

ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES EQUIPMENT GROUP II



ELECTRICAL EQUIPMENT FOR USE IN AREAS WITH COMBUSTIBLE DUST - EQUIPMENT GROUP III



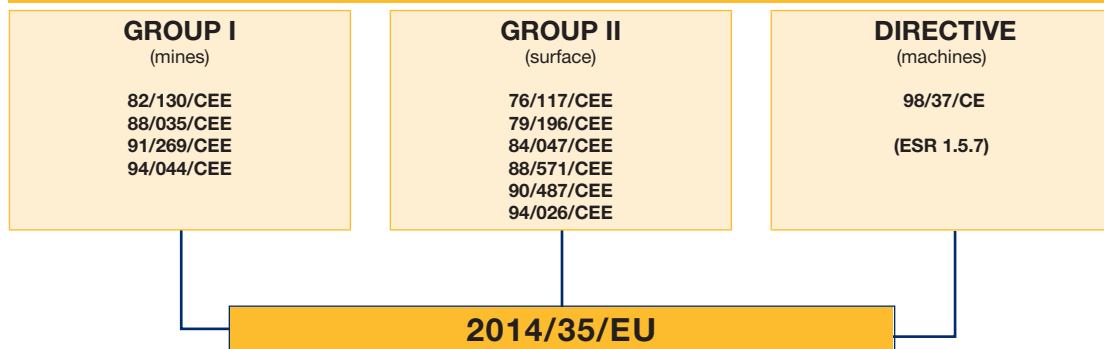
EXPLOSIVE ENVIRONMENTS

WHAT ABOUT THE DIRECTIVE ?

(2014/34/EU - 19.04.16)



ATEX 100 A DIRECTIVE - NEW APPROACH



THE FRAMEWORK OF THE DIRECTIVE

The main principles of the new directive can be summarized as follows:

- It applies to **electric** and **non-electric** equipment.
- It defines **essential health and safety requirements**.
- It takes into consideration **all potential hazards** equipment may cause, in particular at design and production level.
- **The one directive** applies to both **mines** susceptible to fire damp and **surface industries**.
- It stresses the importance of equipment being **used in accordance with its intended purpose**.
- It recognises The European Standards Committee **CEN** and the European Committee for Electrotechnical Standardisation **CENELEC** as competent bodies to fix the required harmonised standards.
- It provides for the **contribution of labour and management**.
- It defines **procedures for assessing conformity** to essential requirements, on the basis of modules which qualify equipment to carry the **CE** mark of conformity.

APPLICATIONS

The directive applies to the industrial field and concerns the following equipment:

- **Equipment** (machines, apparatus, etc.)
- **Protective systems** (discharge devices, explosion suppression devices, etc.)
- **Components** (parts with no autonomous function, terminals, etc.)
- **Safety devices, controlling devices and regulating devices** intended for use outside potentially explosive environments but required for safety with respect to explosions (relays, barriers, pressure switches, thermostats, etc.)

WHAT ABOUT THE DIRECTIVE ? (2014/34/EU - 19.04.16)



EXCLUDED FROM THE SCOPE OF THE NEW DIRECTIVE

The following equipment falls outside the scope of the new directive:

- Medical devices intended for use in a medical environment.
- Equipment and protective systems relating only to the risk of explosion of unstable chemical substances (explosives, etc.)
- Equipment intended for use in domestic and non-commercial environments.
- Personal protective equipment covered by directive 89/686/EC.
- Seagoing vessels and mobile offshore units.
- Means of transport, except for vehicles intended for use in a potentially explosive environment.

POTENTIAL IGNITION SOURCES AND OTHER HAZARDS TO BE CONTROLLED

The following all represent potential hazards:

- Various sources of ignition, such as sparks, flames, electric arcs, high surface temperature, acoustic energy, optical radiation or electromagnetic waves.
- Static electricity.
- Pressure compensation operations.
- Disturbance from external sources, such as changing environmental conditions, extraneous voltage, humidity, vibration or contamination.

Provision is also made for specific requirements governing devices used to provide additional equipment safety.

These requirements necessitate detailed analysis to assess the operational reliability of such devices and their interaction with other components connected with the equipment.

SIL CERTIFICATION

FUNCTIONAL SAFETY

During 70^s and 80^s, major incidents occurred in several chemical and pharmaceutical plants. This is why standard organizations in the US and in Europe established new safety standards, like IEC 61508 (formerly DIN 19251), IEC 61511, and ISA 84.

Risk is ranked as being negligible, tolerable, or unacceptable. The starting point for any modern safety system is to reduce risk in any process to an acceptable or tolerable level. In this context, functional safety can be defined as “free of unacceptable risk”.

The formula for risk is: $RISK = HAZARD\ FREQUENCY \times HAZARD\ CONSEQUENCE$

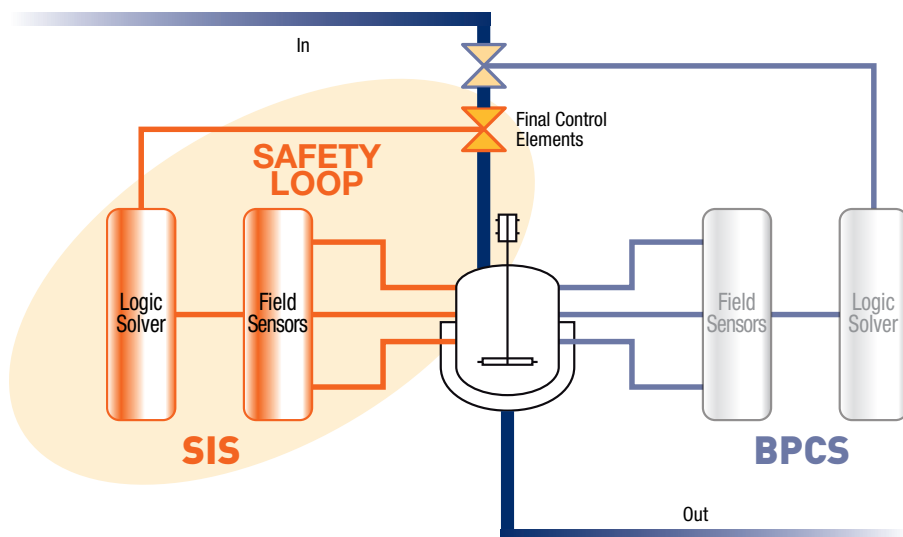
ESD: EMERGENCY SHUTDOWN DEVICES

Risk can be reduced initially by a safe process design, by the Basic Process Control System (PBCS), and finally by a safety shutdown system.

Employees and operating plant must be protected from risks. On their own unique safety precautions may not provide total security. For this reason, safety exists in multiple protective levels: a series of mechanical devices, process controls, shutdown systems and external response measures which prevent or mitigate a hazardous event. If one safety protection level should fail, the other levels are designed to take control.

The level of protective layers required is evaluated using an analysis of a process's hazards and risks known as a Process Hazards Analysis (PHA). If a study concludes that existing protection of the plant is inadequate, an Emergency Shut-down system (ESD), also call Safety Instrumented System (SIS) will be required. The ESD operates independently from Basic Process Control System, and is only used in emergency situations. The task of the ESD is to bring the operating plant back to a safe state working condition when an unsafe operating condition has occurred.

The ESD is designed with a number of safety functions, including sensors, logic solvers and final elements. The final element level is the area where Parker FCDE can provide his expertise and offer solenoid valves, as part of the safety system.



SIF and SIL

A Safety Instrumented Function (SIF) is a safety feature with a specified Safety Integrity Level (SIL) which is implemented by a SIS to achieve or maintain a safe state. SIF's sensor, logic solver, and final elements work together to detect a hazardous condition and bring the process to a safe condition.

The Process Hazards Analysis (PHA) will determine the required SIL level for each SIF.

The effectiveness of a SIS is described in terms of "the probability of the system to fail to perform its required function when requested". This is the Probability of Failure on Demand (PFD).

SIL is linked to the PFD, and is a statistical representation of the SIS integrity when a process demand occurs.

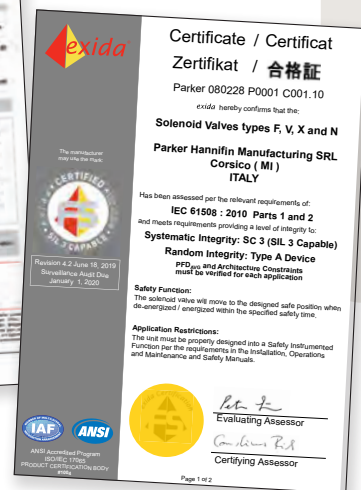
Both ISA84 and IEC 61508 use SIL to measure the reliability of a SIS.

The higher the SIL, the more reliable or effective is the system.

Both ISA and IEC use 3 levels of SIL, SILs 1, 2 & 3. IEC also includes an additional level, SIL 4.



Example of SIL Declaration of Conformity



Example of SIL Certificate

SIL Safe Integrity Level	Availability	PFDavg	Risk Reduction	Qualitative Consequence
4	>99.99%	10^{-5} to $<10^{-4}$	100.000 to 10.000	Potential for fatalities in the community
3	99.9% to 99.99%	10^{-4} to $<10^{-3}$	10.000 to 1.000	Potential for multiple on-site fatalities
2	99% to 99.9%	10^{-3} to $<10^{-2}$	1.000 to 100	Potential for major on-site injuries or a fatality
1	90% to 99%	10^{-2} to $<10^{-1}$	100 to 10	Potential for minor on-site injuries

A PFD of 10^{-4} (SIL3) means 0.0001 possible failures / year or 1 failure in 10.000 years is possible

DETERMINING SIL LEVEL FOR INSTRUMENTS

SIL levels for field instruments are evaluated using two methods:

FMEDA (Failures Modes, Effects and Diagnostic Analysis) usually certified by a third party. A systematic analysis is needed to determine failure rates, failure modes and the diagnostic capability as defined by IEC61508/651511.

Proven In Use is typically used for mature instruments used in a well-known process. This approach requires sufficient product operational hours, revision history, fault reporting systems and field failure data to determine if there is evidence of systematic design faults in a product. IEC 61508 provides levels of operational history required for each SIL.

Depending on the product, Parker is able to provide necessary documentation, including third part certificates, or manufacturer declaration of conformity.

Please consult our technical support for more information: tech.support.fcse@parker.com

HOW TO USE THIS CATALOGUE

This catalogue is a comprehensive list of our products. It will help to identify appropriate valves and coils and enable the user to generate ordering numbers.

This catalogue is split by product family. You will find a summary page at the beginning of each valve section. For ease of use, each valve section is divided by product series.

On the first page of each product series section, you will find an overview of the products within and their technical characteristics, to guide you to the relevant page (example below):

SECTION SUMMARY PAGE



2 WAY VALVES DIRECT OPERATED
V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

 **2/2**

Actuation	Body	Function	Port Size	Drift (mm)	Flow Factor (Kv)	WFO (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	303 Stainless SS/Pipe Mounting	Normally Closed	1/4"	1.5 to 3	2.5	20	100	40
	316L Stainless SS/Pipe Mounting	Normally Closed	1/4"	0.8 to 1	0.6	200		42

Actuation, body and function

Body

Mounting

Function

Related page

Technical features

Product family

Product series

Number of ways / positions

Applicable Fluids

For further technical information regarding Actuation, Body and Function, please refer to the technical information section at the end of the catalogue.

Ordering Information

ISO Symbol

Applicable Approvals within this page

Quick selection table with Min/Max values for all valves on the page

SECTION PRODUCT PAGE

2/2 2 WAY VALVES DIRECT OPERATED

SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

303 STAINLESS ST. PIPE MOUNTING

NORMALLY CLOSED

Port Orifice size	Flow factor Kv	Flow factor Cv	Operating Pressure MPa (bar)	Fluid Temp. °C	Seal Mat.	Valve Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power AC W	Coil Group	Wtg. Nt.		
1.5	1.5	0.09	0	-20	30	121V5406	-	490900	1-21	Ex db mb IIC T4	8	8	2.0	1024
1.5	1.5	0.09	80	0	20	121V5406	2995	490870	2-22	Ex nc AC IIC T4	8	9	2.0	1116
1.5	1.5	0.09	80	0	20	121V5406	2995	481860	-	-	8	9	2.0	1116
1.5	1.5	0.09	80	0	-10	121V5487	-	490910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3.0	3.0/6.0/8.0	1024
1.5	1.5	0.09	80	0	-10	121V5487	-	490900	1-21	Ex db mb IIC T4 to T6	2.5	2	3.0/6.0/8.0	1024
1.5	1.5	0.09	80	0	-8	121V5487	2995	490125	2-22	Ex nC IIC T5/T6	-	1.6	3.0/6.0/8.0	1116
1.5	1.5	0.09	80	0	-8	121V5487	2995	482740	-	-	-	1.6	3.0/6.0/8.0	1116
3	4.5	0.27	315	0	10	121V5306	-	490900	1-21	Ex db mb IIC T4	8	8	2.0	1024
3	4.5	0.27	315	0	10	121V5306	2995	490870	2-22	Ex nc AC IIC T4	8	9	2.0	1116
3	4.5	0.27	315	0	10	121V5306	2995	481860	-	-	8	9	2.0	1116
3	3.5	0.21	220	0	-4.5	121V5397	-	490910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3.0	3.0/6.0/8.0	1024
3	3.5	0.21	220	0	-4.5	121V5397	-	490900	1-21	Ex db mb IIC T4 to T6	2.5	2	3.0/6.0/8.0	1024
3	3.5	0.21	220	0	-2	121V5397	2995	490125	2-22	Ex nC IIC T5/T6	-	1.6	3.0/6.0/8.0	1116
3	3.5	0.21	220	0	-2	121V5397	2995	482740	-	-	-	1.6	3.0/6.0/8.0	1116

Notes:
1. Valve compatible with water only up to 40°C

For this page

Port size

Orifice (mm)

Kv (l/min)

MSDP (bar)

Fluid Temp (°C)

Amb Temp (°C)

From	1/4"	1.5	1.5	2	-20	-20
To	1/4"	3	4.5	20	100	50

Drawing B116

Drawing B034

Fluid Temperature Min/Max permitted *

ATEX Protection Mode

ATEX Zone where the valve can be mounted

A choice of Coil Groups compatible with the selected valve

Dimensional 2D** and 3D drawings

* Fluid temperature may be subject to modification, please always check the ATEX certificate of the valve.

** 2D drawing shown always corresponds to the standard coil.

HOW TO SELECT A VALVE

Once you are in the selected family **1** and product series **2**.

The table is designed to help you navigate to the products matching your criteria.

First decide the actuation **3**, then move across the table selecting your body material **4**, function **5** and technical requirements **6**.

After you have found products fitting within your specification, please go to the corresponding page number in the final column **7**, here you will find a selection of products that match your criteria.

1 SELECT PRODUCT FAMILY

2 SELECT PRODUCT SERIES

3 SELECT ACTUATION

4 SELECT BODY

5 SELECT FUNCTION

6 SELECT TECHNICAL DATA

7 SELECT CORRESPONDING PAGE



1

2 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

2

Oil

Water

Air

2/2

3

Actuation

Direct Operated

4

Body

303 Stainless St./Pipe Mounting
316L Stainless St./Pipe Mounting

5

Function

Normally Closed
Normally Closed

6

Port Size	Orifice (mm)	Flow Factor Kv(l/min)	MOPD (bar)	Max Fluid Temp. (°C)
1/4"	1.5 to 3	4.5	20	100
1/4"	0.8 to 1	0.6	200	75

7

Page Parker LUCIFER® Valves

40
42



39



29

Parker Hannifin Corporation
Fluid Control Solutions Europe
Process Catalogue FCSE/1121/UK/V1.0

Parker coils are available in many different voltages.
Choose the one you need by putting the voltage code at the end of your ordering number.

3 Choose the coil and voltage code

Coil Ref.

495870

Voltage Code

VAC/Hz

Code

24/50

A2

48/50

A4

110/50

A5

Valve and coil order example:

1

2

3

121V5406 - 2995 - 495870A2

Valve
Reference

Housing

Coil and
Voltage Code

EXPLOSION PROOF ELECTRICAL PARTS

COIL GROUP

2.0/2.1 ELECTRICAL PARTS "nc AC"

RoHS CE Ex

ELECTRICAL PART 32 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group. See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex nc AC IIC T3 to T4 is required. Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

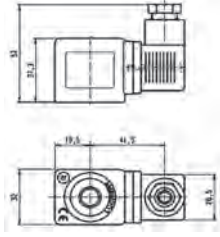
Benefits: The synthetic material encapsulation of the coil provides an effective compact housing, offering full protection against dust, oil, water, etc. Small size for ease of mounting in confined spaces.



Reference

Reference	495870	496110
Certificate	LCIE 05 ATEX 6003 X	
Coil Group	2.0 / 2.1	
Gas	II 3 G - Ex nc AC IIC T3 / T4	
Dust	II 3 D - Ex tc IIC - T195°C / T130°C	
Degree of protection	IP65 (with plug) according to IEC/EN 60529 Standards	
Insulation Class	F (155°C)	
Duty cycle	100%	
Ambient temperature	-40°C to +65°C / 50°C The application is limited also by the temperature range of the valve.	
Elect. Power DC	9 W	
P (cold 20°C)	12 W	
P (holding)	8 W	
Attraction cold	26 VA (9 W)	
Weight	150 g	
Voltages "Un"	220/230/50	
-10% to +10% of the Un	30	

To Order a Coil choose Coil Ref + Voltage Code, example: 495870 for 24VDC = 495870C2



Parker

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Important:

Valve, Housing and Coil must be ordered separately separately. In case of demand for full assemblies please consult PH Connect or your local Sales contact.

HOW TO USE COIL GROUPS

WITHIN A VALVE PAGE

One of Parker's strengths is the modularity, adaptability and flexibility of our products. When you select a solenoid valve, the coils displayed in the table have been chosen as they will fulfill the majority of application requirements.

Valve Ref.	Housing Ref.	Coil Ref.
121V5406	-	495905
121V5406	2995	495870
121V5406	2995	481865

However, in some specific cases, you will need special features that will lead you to choose another coil.

Groups have been created in order to facilitate the selection of a compatible coil with the chosen valve.

Coil Group
2.0
2.0
2.0

Example:

The valve 121V5406 is proposed with the coil 495870 but you can also choose any coil from the group 2.0.

2/2

2 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

303 STAINLESS ST.

PIPE MOUNTING

NORMALLY CLOSED

Port size	Orifice ID	Flow factor	Operating Pressure Differential	Fluid Temp.	Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power	Coil Group	Draw. No.	
1.5	1.5	0.09	0	20	20	121V5406	-	495905	1-21	Ex db mb IC T4	8	8	2.0 8024	
1.5	1.5	0.09	80	0	20	121V5406	2995	495870	2-22	Ex mc AC IC T3/T4	8	9	2.0 8116	
1.5	1.5	0.09	80	0	20	121V5406	2995	481865	-	-	8	9	2.0 8116	
1.5	1.5	0.09	80	0	10	121V5407	-	495910	0-20	Ex Ia IC T4 to T6	0.3 to 3	3.0/6.0/8.0	8024	
1.5	1.5	0.09	80	0	10	121V5407	-	495900	1-21	Ex db mb IC T4 to T6	2.5	2	3.0/6.0/8.0 8024	
1.5	1.5	0.09	80	0	8	121V5407	2995	496125	2-22	Ex mc AC IC T3/T4	1.6	3.0/6.0/8.0	8116	
1.5	1.5	0.09	80	0	8	121V5407	2995	482740	-	-	1.6	3.0/6.0/8.0	8116	
3	4.5	0.27	315	0	10	7	121V5306	-	495905	1-21	Ex db mb IC T4	8	8	2.0 8024
3	4.5	0.27	315	0	10	7	121V5306	2995	495870	2-22	Ex mc AC IC T3/T4	8	9	2.0 8116
3	4.5	0.27	315	0	10	7	121V5306	2995	481865	-	-	8	9	2.0 8116
3	3.5	0.21	220	0	4.5	-20	121V5307	-	495910	0-20	Ex Ia IC T4 to T6	0.3 to 3	3.0/6.0/8.0 8024	
3	3.5	0.21	220	0	4.5	-20	121V5307	-	495900	1-21	Ex db mb IC T4 to T6	2.5	2	3.0/6.0/8.0 8024
3	3.5	0.21	220	0	2	-20	121V5307	2995	496125	2-22	Ex mc AC IC T3/T4	1.6	3.0/6.0/8.0	8116
3	3.5	0.21	220	0	2	-20	121V5307	2995	482740	-	-	1.6	3.0/6.0/8.0	8116

Notes:

1.9 media is water, max admissible temperature is 40°C

Parker

40

It is also possible to choose the coil first and then select the valve using coil groups.





2 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING



Oil



Water



Air

2/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Kv(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	Brass/Pipe Mounting	Normally Closed	1/4"	1 to 3	4.5	60	100	36

2/2

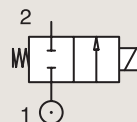
2 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

NORMALLY CLOSED



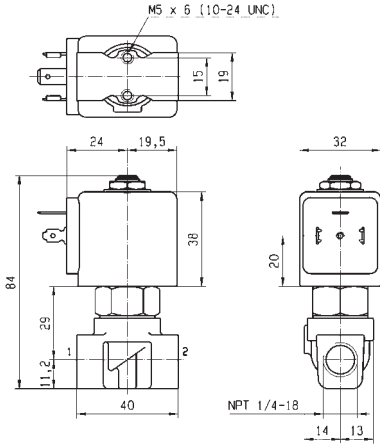
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Min	Max(MOPD)	Min	Max	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	bar	AC bar	DC bar	°C	°C	°C										
1/4" NPT	1	0.6	0.04	36	0	-	10	-10	55	FKM	U121K0490	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7059
	1	0.6	0.04	36	0	-	10	-10	55	FKM	U121K0490	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7059
	1	0.6	0.04	36	0	10	10	-10	55	FKM	U121K0490	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7059
	1.5	0.6	0.04	36	0	-	10	-10	55	FKM	U121K0690	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7059
	1.5	0.6	0.04	36	0	-	10	-10	55	FKM	U121K0690	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7059
	1.5	0.6	0.04	36	0	10	10	-10	55	FKM	U121K0690	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7059
1/4"	1.5	1.5	0.09	80	0	60	25	-30	65	PCTFE	E121K04	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8274
	1.5	1.5	0.09	80	0	60	25	-30	60	PCTFE	E121K04	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	3510
	1.5	1.5	0.09	80	0	60	25	-30	75	PCTFE	E121K04	2995	481865	-	-	8	9	2.0	3510
	1.5	1.5	0.09	80	0	20	20	-10	65	FKM	E121K0402	-	495905	1-21	Ex db mb IIC T4	8	8	2.0/3.0	8274
	1.5	1.5	0.09	80	0	20	20	-10	60	FKM	E121K0402	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0/3.0	3510
	1.5	1.5	0.09	80	0	20	20	-10	100	FKM	E121K0402	2995	481865	-	-	8	9	2.0/3.0	3510
	1.5	1.5	0.09	80	0	-	10	-20	65	PUR	121K0497	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8274
	1.5	1.5	0.09	80	0	10	10	-20	65	PUR	121K0497	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8274
	1.5	1.5	0.09	80	0	-	8	-20	50	PUR	121K0497	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	3510
	1.5	1.5	0.09	80	0	-	8	-20	75	PUR	121K0497	2995	482740	-	-	-	1.6	6.0/8.0	3510
	3	4.5	0.27	320	0	20	7	-30	65	PCTFE	E121K03	-	495905	1-21	Ex db mb IIC T4	8	8	2.0/3.0	8274
	3	4.5	0.27	320	0	20	7	-30	60	PCTFE	E121K03	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0/3.0	3510
	3	4.5	0.27	320	0	20	7	-30	75	PCTFE	E121K03	2995	481865	-	-	8	9	2.0/3.0	3510
	3	4.5	0.27	320	0	10	7	-10	65	FKM	E121K0302	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8274
	3	4.5	0.27	320	0	10	7	-10	60	FKM	E121K0302	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	3510
	3	4.5	0.27	320	0	10	7	-10	100	FKM	E121K0302	2995	481865	-	-	8	9	2.0	3510
	3	3.5	0.21	250	0	-	4.5	-20	65	PUR	121K0397	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8274
	3	3.5	0.21	250	0	4.5	4	-20	65	PUR	121K0397	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8274
	3	3.5	0.21	250	0	-	2	-20	50	PUR	121K0397	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	3510
	3	3.5	0.21	250	0	-	2	-20	75	PUR	121K0397	2995	482740	-	-	-	1.6	6.0/8.0	3510

Notes:

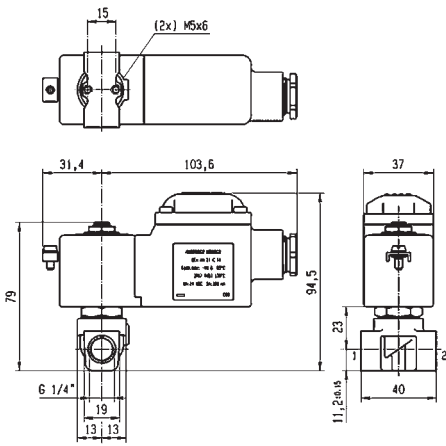
1. If media is water, max admissible fluid temperature is 40°C

IECEX
certified

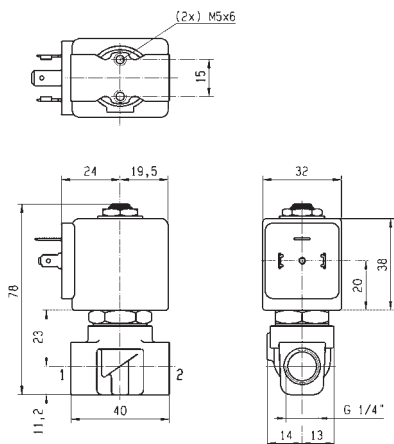
For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	1	0.6	2	-30	-20
To	1/4"	3	4.5	60	100	50



Drawing 7059



Drawing 8274



Drawing 3510





2 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING



Oil



Water



Air

2/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Kv(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	303 Stainless St./Pipe Mounting	Normally Closed	1/4"	1.5 to 3	4.5	20	100	40
	316L Stainless St./Pipe Mounting	Normally Closed	1/4"	0.8 to 1	0.6	200	75	42

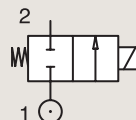
2/2

2 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

303 STAINLESS ST. PIPE MOUNTING

NORMALLY CLOSED



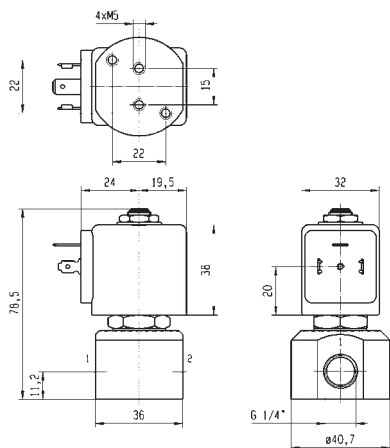
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	KV	Qn	Min	AC	DC	Min	Max							AC W	DC W		
	mm	l/min	m³/h	l/min	bar	bar	bar	°C	°C										
1/4"	1.5	1.5	0.09	80	0	20	20	-10	65	FKM	121V5406	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8024
	1.5	1.5	0.09	80	0	20	20	-10	60	FKM	121V5406	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8116
	1.5	1.5	0.09	80	0	20	20	-10	100	FKM	121V5406	2995	481865	-	-	8	9	2.0	8116
	1.5	1.5	0.09	80	0	-	10	-20	65	PUR	121V5497	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	3.0/6.0/8.0	8024
	1.5	1.5	0.09	80	0	10	10	-20	65	PUR	121V5497	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	3.0/6.0/8.0	8024
	1.5	1.5	0.09	80	0	-	8	-20	50	PUR	121V5497	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	3.0/6.0/8.0	8116
	1.5	1.5	0.09	80	0	-	8	-20	75	PUR	121V5497	2995	482740	-	-	-	1.6	3.0/6.0/8.0	8116
	3	4.5	0.27	315	0	10	7	-10	65	FKM	121V5306	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8024
	3	4.5	0.27	315	0	10	7	-10	60	FKM	121V5306	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8116
	3	4.5	0.27	315	0	10	7	-10	100	FKM	121V5306	2995	481865	-	-	8	9	2.0	8116
	3	3.5	0.21	220	0	-	4.5	-20	65	PUR	121V5397	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	3.0/6.0/8.0	8024
	3	3.5	0.21	220	0	4.5	4	-20	65	PUR	121V5397	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	3.0/6.0/8.0	8024
	3	3.5	0.21	220	0	-	2	-20	50	PUR	121V5397	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	3.0/6.0/8.0	8116
	3	3.5	0.21	220	0	-	2	-20	75	PUR	121V5397	2995	482740	-	-	-	1.6	3.0/6.0/8.0	8116

Notes:

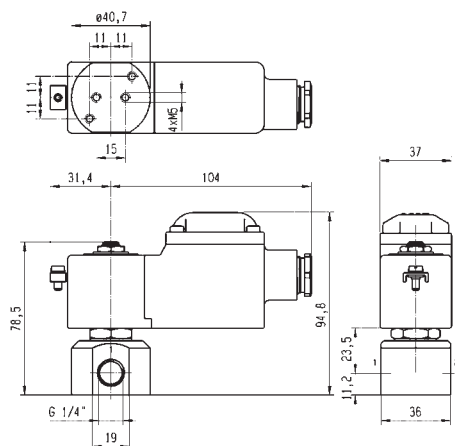
1.If media is water, max admissible fluid temperature is 40°C



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	1.5	1.5	2	-20	-20
To	1/4"	3	4.5	20	100	50



Drawing 8116



Drawing 8024

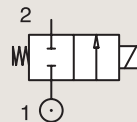
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2 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

316L STAINLESS ST.
PIPE MOUNTING

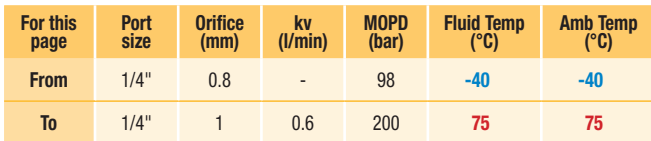
NORMALLY CLOSED



Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
					Min	Max(MOPD)	Min	Max	AC W							DC W			
		mm	Kv l/min	KV m³/h	Qn l/min	bar	AC bar	DC bar	°C							°C			
1/4" NPT	0.8	-	-	20	0	-	200	-25	65	PUR	U121VS3750A ₁	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8165
	0.8	-	-	20	0	-	200	-25	75	PUR	U121VS3750A ₁	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	6713
	0.8	-	-	20	0	200	200	-25	75	PUR	U121VS3750A ₁	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	6713
	0.8	-	-	20	0	200	200	-25	65	PUR	U121VS3750A ₁	-	496560	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2	8165
	0.8	-	-	20	0	200	200	-25	65	PUR	U121VS3750A ₁	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2	8165
	1	0.6	0.04	40	0	-	98	-40	75	PUR	U121V5595 ₂₃	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8165
	1	0.6	0.04	40	0	-	98	-40	75	PUR	U121V5595 ₂₃	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	6713
	1	0.6	0.04	40	0	98	98	-40	65	PUR	U121V5595 ₂₃	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2	8165
	1	0.6	0.04	40	0	98	98	-40	75	PUR	U121V5595 ₂₃	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	6713
	1	0.6	0.04	40	0	98	98	-40	65	PUR	U121V5595 ₂₃	-	496560	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2	8165
	1	0.6	0.04	40	0	98	98	-40	50	PUR	U121V5595 ₂₃	-	496895	-	-	8	8	9.0/10.1/10.2	8165
	1	0.6	0.04	40	0	-	98	-40	65	PUR	U121V7595 ₃	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2/10.3	8165
	1	0.6	0.04	40	0	98	98	-40	65	PUR	U121V7595 ₃	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2/10.3	8165
	1	0.6	0.04	40	0	98	98	-40	65	PUR	U121V7595 ₃	-	497105	1-21	Ex db IIC T4 to T6	8	8	9.0/10.1/10.2/10.3	8299
1	0.6	0.04	40	0	98	98	-40	50	PUR	U121V7595 ₃	-	496895	-	-	8	8	9.0/10.1/10.2/10.3	8165	

Notes:

1. Valve only compatible with neutral gases
2. Valve delivered with an individual material traceability certificate (3.1 following EN10204)
3. If media is water, max admissible fluid temperature is 40°C



Drawing 8165



Drawing 8299



Drawing 6713





3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING



3/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Kv(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	Brass/Pipe Mounting	Normally Closed	1/8"	1.5 to 2.5	3.5	15	100	46
			1/4"	1 to 2.5	3.5	30	140	48
		Normally Open	1/4"	1.5 to 2.5	2.2	16	100	54
		Universal	1/8"	1.5 to 2.5	3.5	10	100	56
			1/4"	0.8 to 2.5	3.5	30	100	58
		Control by Electric Impulse	1/4"	1.5 to 2.5	3.5	16	100	60

3/2

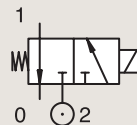
3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

NORMALLY CLOSED



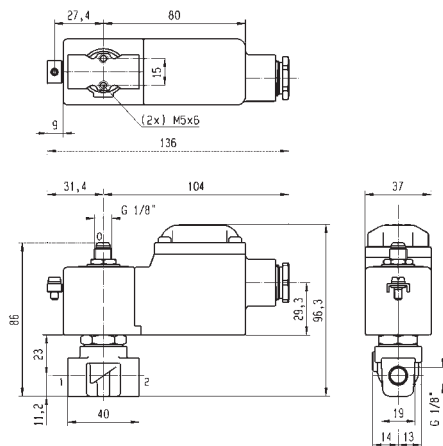
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal			ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.	
		Kv	Qn		Min	Max(MOPD)	Min	Max	AC W						DC W				
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C		Valve Ref.	Housing Ref.	Coil Ref.						
1/8"	1.5	1.5	0.09	80	0	15	15	-10	65	FKM	E131K14	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8019
	1.5	1.5	0.09	80	0	15	15	-10	60	FKM	E131K14	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	1.5	1.5	0.09	80	0	15	15	-10	100	FKM	E131K14	2995	481865	-	-	8	9	2.1	3510
	2	2.5	0.15	140	0	10	10	-10	65	FKM	131K16	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8019
	2	2.5	0.15	140	0	10	10	-10	60	FKM	131K16	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2	2.5	0.15	140	0	10	10	-10	100	FKM	131K16	2995	481865	-	-	8	9	2.1	3510
	2	2.5	0.15	140	0	10	10	-10	65	FKM	131K1650 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8019
	2	2.5	0.15	140	0	10	10	-10	60	FKM	131K1650 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2	2.5	0.15	140	0	10	10	-10	100	FKM	131K1650 ₁	2995	481865	-	-	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-10	65	FKM	E131K13	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8019
	2.5	3.5	0.21	220	0	7	7	-10	60	FKM	E131K13	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-10	100	FKM	E131K13	2995	481865	-	-	8	9	2.1	3510

Notes:

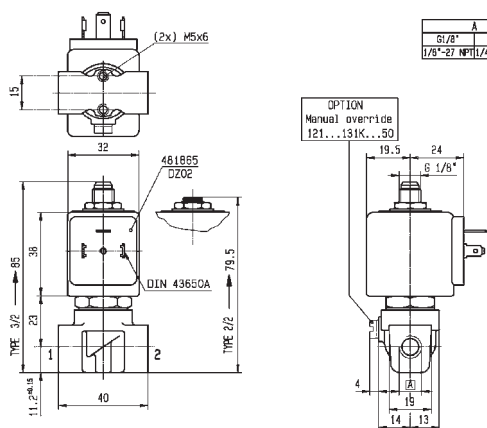
1. With manual override



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"	1.5	1.5	7	-10	-10
To	1/8"	2.5	3.5	15	100	50



Drawing 8019



Drawing 3510

3/2

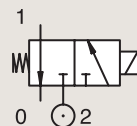
3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

NORMALLY CLOSED



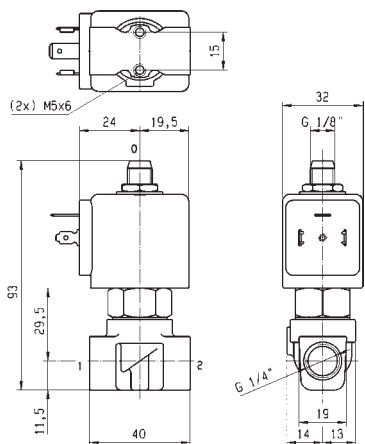
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qv	Qn	Min	AC	DC	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	l/min	bar	bar	bar	°C	°C										
1/4"	1	0.6	0.04	36	0	-	10	-10	55	FKM	131K0490	2995		0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7058
	1	0.6	0.04	36	0	-	10	-10	65	FKM	131K0490	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7058
	1	0.6	0.04	36	0	10	10	-10	65	FKM	131K0490	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7058
	1.2	0.8	0.05	50	0	30	30	-30	65	Ruby	E131K64 ₃	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8023
	1.2	0.8	0.05	50	0	30	30	-30	60	Ruby	E131K64 ₃	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8119
	1.2	0.8	0.05	50	0	30	30	-30	140	Ruby	E131K64 ₃	2995	481865	-	-	8	9	2.0	8119
	1.2	0.8	0.05	50	0	30	30	-30	65	Ruby	E131K6450 ₁₃	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	1.2	0.8	0.05	50	0	30	30	-30	60	Ruby	E131K6450 ₁₃	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8119
	1.2	0.8	0.05	50	0	30	30	-30	140	Ruby	E131K6450 ₁₃	2995	481865	-	-	8	9	2.1	8119
	1.5	1.5	0.09	80	0	-	7	-20	65	PUR	131K0497 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8023
	1.5	1.5	0.09	80	0	7	7	-20	65	PUR	131K0497 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8023
	1.5	1.5	0.09	80	0	-	7	-20	50	PUR	131K0497 ₂	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	8023
	1.5	1.5	0.09	80	0	-	7	-20	75	PUR	131K0497 ₂	2995	482740	-	-	-	1.6	6.0/8.0	8023
	1.5	1.5	0.09	80	0	16	16	-10	65	FKM	E131K04	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8023
	1.5	1.5	0.09	80	0	16	16	-10	60	FKM	E131K04	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8119
	1.5	1.5	0.09	80	0	16	16	-10	100	FKM	E131K04	2995	481865	-	-	8	9	2.0	8119
	1.5	1.5	0.09	80	0	15	15	-10	65	FKM	E131K0450 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	1.5	1.5	0.09	80	0	15	15	-10	60	FKM	E131K0450 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8119
	1.5	1.5	0.09	80	0	15	15	-10	100	FKM	E131K0450 ₁	2995	481865	-	-	8	9	2.1	8119

Notes:

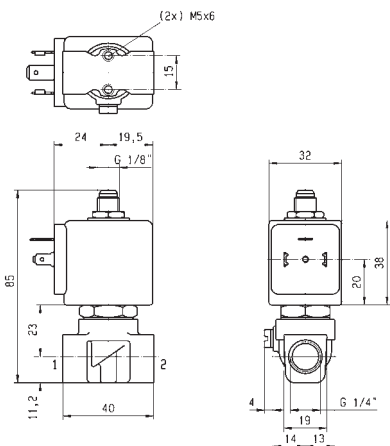
1. With manual override
2. If media is water, max admissible fluid temperature is 40°C
3. Valve not recommended for use with gases



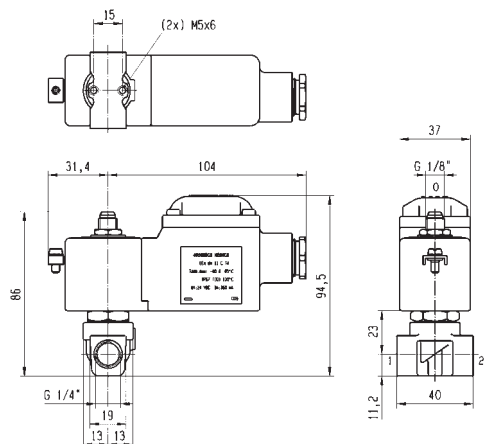
For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	1	0.6	7	-30	-20
To	1/4"	1.5	1.5	30	140	50



Drawing 7058



Drawing 8119



Drawing 8023

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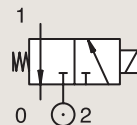
3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

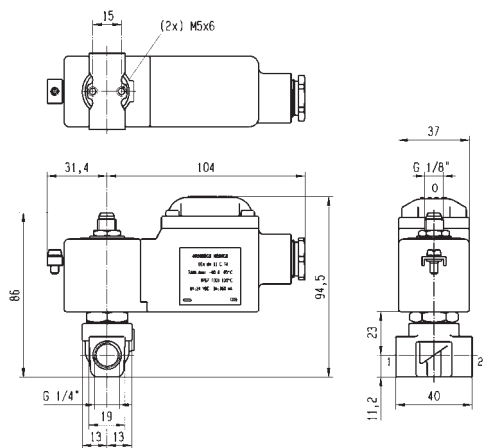
NORMALLY CLOSED



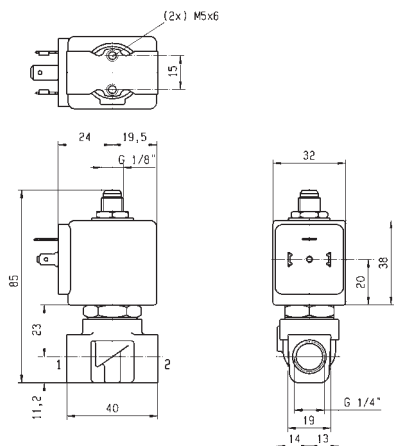
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal				ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	KV	Qn	Min	Max(MOPD)	Min	Max	Valve Ref.		Housing Ref.	Coil Ref.	AC W			DC W			
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C										
1/4"	2	2.5	0.15	140	0	10	10	-10	65	FKM	E131K06	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8023
	2	2.5	0.15	140	0	10	10	-10	60	FKM	E131K06	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8119
	2	2.5	0.15	140	0	10	10	-10	100	FKM	E131K06	2995	481865	-	-	8	9	2.0	8119



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	1.8	2	10	-40	-10
To	1/4"	2	2.5	10	100	50



Drawing 8023



Drawing 8119

3/2

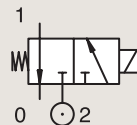
3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

NORMALLY CLOSED



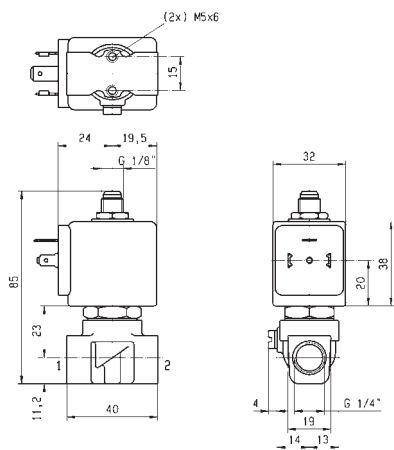
Port size	Orifice Ø	Flow factor			Operating Pressure Differential Max(MOPD)			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	KV m³/h	Qn l/min	Min bar	AC bar	DC bar	Min °C	Max °C							AC W	DC W		
BSP	mm																		
1/4"	2	2.5	0.15	140	0	10	10	-10	65	FKM	E131K0650 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3510
	2	2.5	0.15	140	0	10	10	-10	60	FKM	E131K0650 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2	2.5	0.15	140	0	10	10	-10	100	FKM	E131K0650 ₁	2995	481865	-	-	8	9	2.1	3510
	2.5	3	0.18	180	0	-	2	-20	65	PUR	131K0397 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8023
	2.5	3	0.18	180	0	2	2	-20	65	PUR	131K0397 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8023
	2.5	3	0.18	180	0	-	2	-20	50	PUR	131K0397 ₂	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	8023
	2.5	3	0.18	180	0	-	2	-20	75	PUR	131K0397 ₂	2995	482740	-	-	-	1.6	6.0/8.0	8023
	2.5	2.7	0.16	220	0.1	7	7	-10	65	FKM	E131E03 ₃	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	3525
	2.5	2.7	0.16	220	0.1	7	7	-10	60	FKM	E131E03 ₃	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	3525
	2.5	2.7	0.16	220	0.1	7	7	-10	75	FKM	E131E03 ₃	2995	481865	-	-	8	9	2.0	3525
	2.5	3.5	0.21	220	0	7	7	-10	65	FKM	E131K03	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8023
	2.5	3.5	0.21	220	0	7	7	-10	60	FKM	E131K03	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	3510
	2.5	3.5	0.21	220	0	7	7	-10	100	FKM	E131K03	2995	481865	-	-	8	9	2.0	3510
	2.5	3.5	0.21	220	0	7	7	-40	65	PUR	E131K0308 ₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	2.5	3.5	0.21	220	0	7	7	-40	60	PUR	E131K0308 ₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-40	75	PUR	E131K0308 ₂	2995	481865	-	-	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-10	65	FKM	E131K0350 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	2.5	3.5	0.21	220	0	7	7	-10	60	FKM	E131K0350 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-10	100	FKM	E131K0350 ₁	2995	481865	-	-	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-40	65	PUR	E131K0358 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	2.5	3.5	0.21	220	0	7	7	-40	60	PUR	E131K0358 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-40	75	PUR	E131K0358 ₁₂	2995	481865	-	-	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-30	65	Ruby	E131K63	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8023
	2.5	3.5	0.21	220	0	7	7	-30	60	Ruby	E131K63	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	3510
	2.5	3.5	0.21	220	0	7	7	-30	100	Ruby	E131K63	2995	481865	-	-	8	9	2.0	3510
	2.5	3.5	0.21	220	0	7	7	-30	65	Ruby	E131K6350 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	2.5	3.5	0.21	220	0	7	7	-30	60	Ruby	E131K6350 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2.5	3.5	0.21	220	0	7	7	-30	100	Ruby	E131K6350 ₁	2995	481865	-	-	8	9	2.1	3510

Notes:

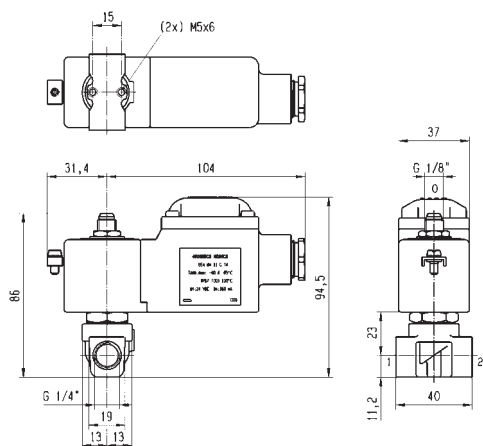
1. With manual override
2. If media is water, max admissible fluid temperature is 40°C
3. Quick exhaust valve



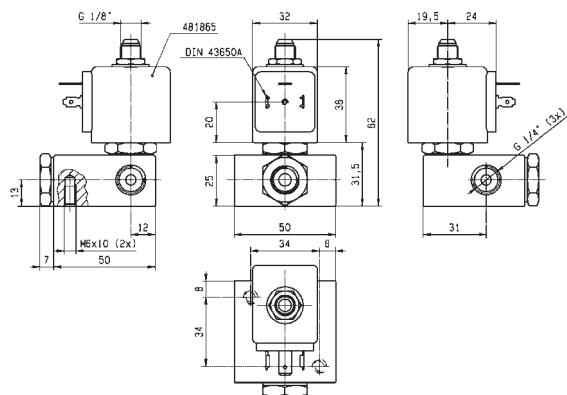
For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	2	2.5	7	-40	-40
To	1/4"	2.5	3.5	10	100	50



Drawing 3510



Drawing 8023



Drawing 3525

3/2

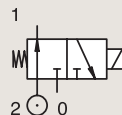
3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

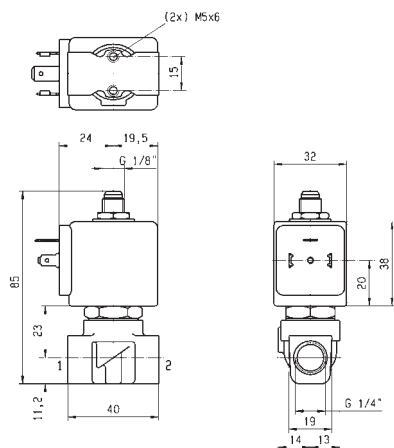
NORMALLY OPEN



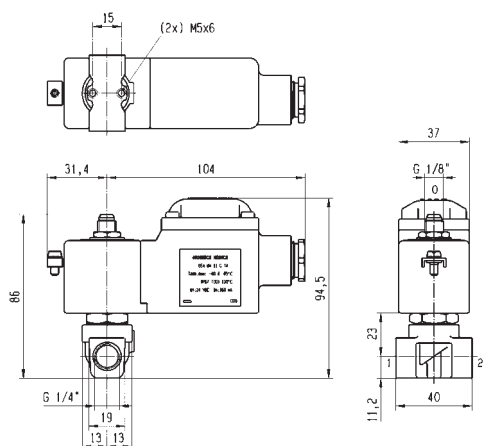
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Min	AC bar	DC bar	Min °C	Max °C	AC W							DC W			
BSP	mm	l/min	m³/h	bar	bar	bar	°C	°C											
1/4"	1.5	1.4	0.08	80	0	16	16	-10	65	FKM	132K04	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	1.5	1.4	0.08	80	0	16	16	-10	60	FKM	132K04	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	1.5	1.4	0.08	80	0	16	16	-10	100	FKM	132K04	2995	481865	-	-	8	9	2.1	3510
	2	1.8	0.11	125	0	10	10	-10	65	FKM	132K06	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	2	1.8	0.11	125	0	10	10	-10	60	FKM	132K06	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2	1.8	0.11	125	0	10	10	-10	100	FKM	132K06	2995	481865	-	-	8	9	2.1	3510
	2.5	2.2	0.13	160	0	7	7	-10	65	FKM	132K03	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	2.5	2.2	0.13	160	0	7	7	-10	60	FKM	132K03	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2.5	2.2	0.13	160	0	7	7	-10	100	FKM	132K03	2995	481865	-	-	8	9	2.1	3510



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	1.5	1.4	7	-10	-10
To	1/4"	2.5	2.2	16	100	50



Drawing 3510



Drawing 8023

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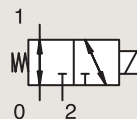
3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

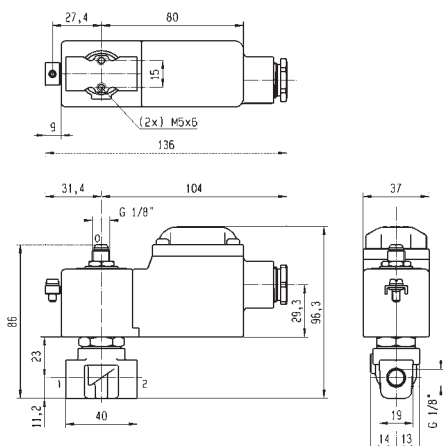
UNIVERSAL



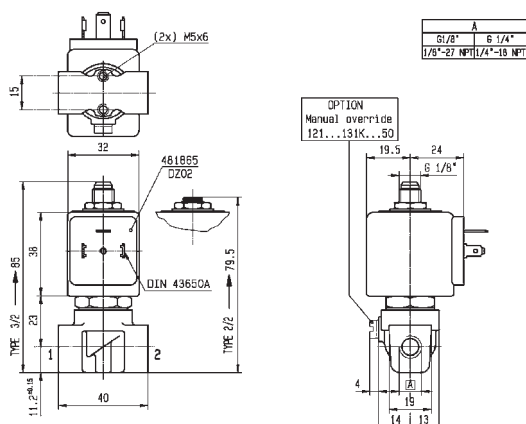
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn		Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C										
1/8"	1.5	1.5	0.09	80	0	10	10	-10	65	FKM	E133K14	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	1.5	1.5	0.09	80	0	10	10	-10	60	FKM	E133K14	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	1.5	1.5	0.09	80	0	10	10	-10	100	FKM	E133K14	2995	481865	-	-	8	9	2.1	3510
	2	2.5	0.15	145	0	7	7	-10	65	FKM	E133K16	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	2	2.5	0.15	145	0	7	7	-10	60	FKM	E133K16	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2	2.5	0.15	145	0	7	7	-10	100	FKM	E133K16	2995	481865	-	-	8	9	2.1	3510
	2.5	3.5	0.21	220	0	4	4	-10	65	FKM	E133K13	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8023
	2.5	3.5	0.21	220	0	4	4	-10	60	FKM	E133K13	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3510
	2.5	3.5	0.21	220	0	4	4	-10	100	FKM	E133K13	2995	481865	-	-	8	9	2.1	3510



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"	1.5	1.5	4	-10	-10
To	1/8"	2.5	3.5	10	100	50



Drawing 8023



Drawing 3510

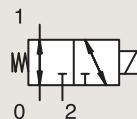
3/2

3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS PIPE MOUNTING

UNIVERSAL



Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.		Protection Mode		Power		Coil Group	Dwg. No.
		Kv	Qn		Min	Max(MOPD)		Min	Max								AC W	DC W		
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C											
1/4"	0.8	0.3	0.02	23	0	30	30	-10	60	FKM	E133K05	-	495905	1-21	Ex db mb IIC T4		8	8	2.0	8023
	0.8	0.3	0.02	23	0	30	30	-10	60	FKM	E133K05	2995	495870	2-22	Ex nc AC IIC T3/T4		8	9	2.0	3510
	0.8	0.3	0.02	23	0	30	30	-10	100	FKM	E133K05	2995	481865	-	-		8	9	2.0	3510
	1.5	1.5	0.09	80	0	-	3	-20	65	PUR	133K0497 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	2	6.0/8.0	8023
	1.5	1.5	0.09	80	0	3	3	-20	65	PUR	133K0497 ₂	-	495900	1-21	Ex db mb IIC T4 to T6 2.5		2	2	6.0/8.0	8023
	1.5	1.5	0.09	80	0	-	3	-20	50	PUR	133K0497 ₂	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6		6.0/8.0	3510
	1.5	1.5	0.09	80	0	-	3	-20	75	PUR	133K0497 ₂	2995	482740	-	-	-	1.6		6.0/8.0	3510
	1.5	1.5	0.09	80	0	10	10	-10	65	FKM	E133K04	-	495905	1-21	Ex db mb IIC T4		8	8	2.0	8023
	1.5	1.5	0.09	80	0	10	10	-10	60	FKM	E133K04	2995	495870	2-22	Ex nc AC IIC T3/T4		8	9	2.0	3510
	1.5	1.5	0.09	80	0	10	10	-10	100	FKM	E133K04	2995	481865	-	-		8	9	2.0	3510
	1.5	1.5	0.09	80	0	10	10	-10	65	FKM	E133K0450 ₁	-	495905	1-21	Ex db mb IIC T4		8	8	2.1	8023
	1.5	1.5	0.09	80	0	10	10	-10	60	FKM	E133K0450 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4		8	9	2.1	3510
	1.5	1.5	0.09	80	0	10	10	-10	100	FKM	E133K0450 ₁	2995	481865	-	-		8	9	2.1	3510
	2	2.5	0.15	145	0	7	7	-10	65	FKM	E133K06	-	495905	1-21	Ex db mb IIC T4		8	8	2.0/3.0	8023
	2	2.5	0.15	145	0	7	7	-10	60	FKM	E133K06	2995	495870	2-22	Ex nc AC IIC T3/T4		8	9	2.0/3.0	3510
	2	2.5	0.15	145	0	7	7	-10	100	FKM	E133K06	2995	481865	-	-		8	9	2.0/3.0	3510
	2	2.5	0.15	145	0	7	7	-10	65	FKM	E133K0650 ₁	-	495905	1-21	Ex db mb IIC T4		8	8	2.1	8023
	2	2.5	0.15	145	0	7	7	-10	60	FKM	E133K0650 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4		8	9	2.1	3510
	2	2.5	0.15	145	0	7	7	-10	100	FKM	E133K0650 ₁	2995	481865	-	-		8	9	2.1	3510
	2.5	3.5	0.21	220	0	4	4	-10	65	FKM	E133K03	-	495905	1-21	Ex db mb IIC T4		8	8	2.0	8023
	2.5	3.5	0.21	220	0	4	4	-10	60	FKM	E133K03	2995	495870	2-22	Ex nc AC IIC T3/T4		8	9	2.0	3510
	2.5	3.5	0.21	220	0	4	4	-10	100	FKM	E133K03	2995	481865	-	-		8	9	2.0	3510
	2.5	3.5	0.21	220	0	4	4	-10	65	FKM	E133K0350 ₁	-	495905	1-21	Ex db mb IIC T4		8	8	2.1	8023
	2.5	3.5	0.21	220	0	4	4	-10	60	FKM	E133K0350 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4		8	9	2.1	3510
	2.5	3.5	0.21	220	0	4	4	-10	100	FKM	E133K0350 ₁	2995	481865	-	-		8	9	2.1	3510

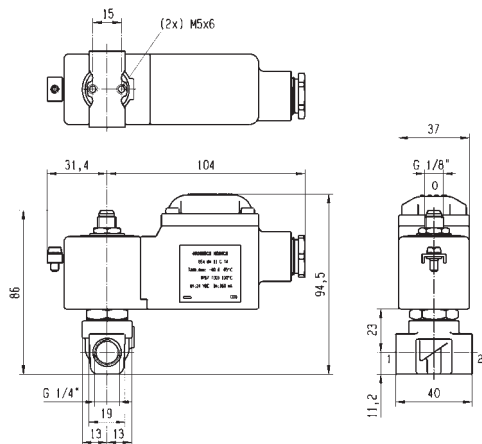
Notes:

1. With manual override

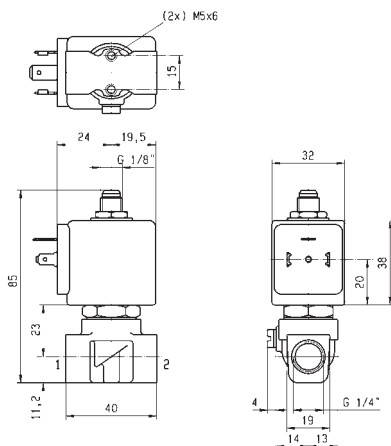
2. If media is water, max admissible fluid temperature is 40°C



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	0.8	0.3	3	-20	-20
To	1/4"	2.5	3.5	30	100	50



Drawing 8023



Drawing 3510

3/2

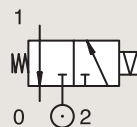
3 WAY VALVES DIRECT OPERATED

K SERIES - BRASS VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

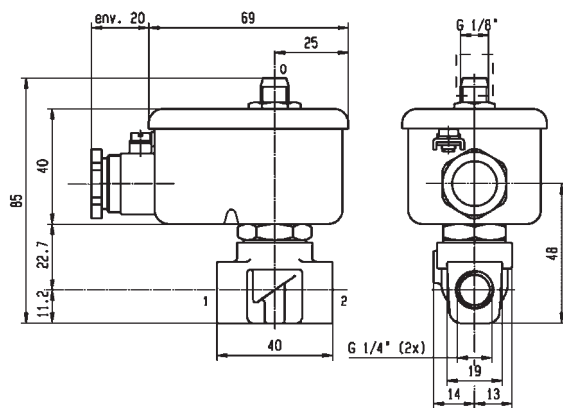
CONTROL BY ELECTRIC IMPULSE



Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal				ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	KV	Qn	Min	AC bar	DC bar	Max(MOPD)	Min		Max	Valve Ref.	Housing Ref.			Coil Ref.	AC W		
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C										
1/4"	1.5	1.5	0.09	80	0	-	16	-10	100	FKM	135K04	4269	485400	-	-	-	13	4.0	8104
	1.5	1.5	0.09	80	0	16	-	-10	100	FKM	135K04	4269	484990	-	-	11	-	4.0	8104
	2.5	3.5	0.21	220	0	7	-	-10	100	FKM	135K03	4269	484990	-	-	11	-	4.0	8104
	2.5	3.5	0.21	220	0	-	7	-10	100	FKM	135K03	4269	485400	-	-	-	13	4.0	8104



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	1.5	1.5	7	-10	-10
To	1/4"	2.5	3.5	16	100	50



Drawing 8104





3 WAY VALVES DIRECT OPERATED

T SERIES - BRASS VALVES, PIPE MOUNTING



Oil



Water



Air

3/2

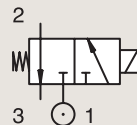
Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Kv(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	Brass/Pipe Mounting	Normally Closed	1/4"	2 to 4.5	7	10	75	64
		Normally Open	1/4"	2 to 3	4.5	10	75	66
		Universal	1/4"	2 to 3	4.5	7	75	68

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3 WAY VALVES DIRECT OPERATED T SERIES - BRASS VALVES, PIPE MOUNTING

BRASS PIPE MOUNTING

NORMALLY CLOSED



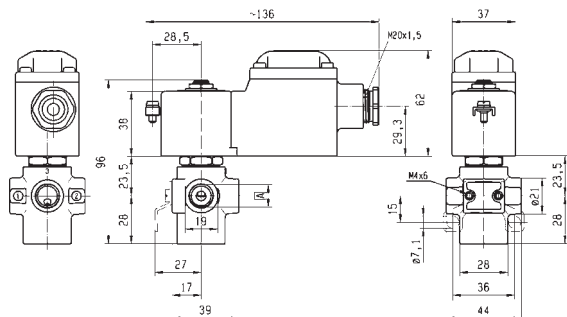
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Qn	Min	Max(MOPD)	Max	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C										
1/4"	2	2.5	0.15	140	0	10	10	-10	65	FKM	131T23	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8356
	2	2.5	0.15	140	0	10	10	-10	60	FKM	131T23	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8356
	2	2.5	0.15	140	0	10	10	-10	75	FKM	131T23	2995	481865	-	-	8	9	2.0	8356
	2	2.5	0.15	140	0	10	10	-10	65	FKM	131T2301	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8345
	2	2.5	0.15	140	0	10	10	-10	60	FKM	131T2301	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8345
	2	2.5	0.15	140	0	10	10	-10	75	FKM	131T2301	2995	481865	-	-	8	9	2.0	8345
	2.5	3.5	0.21	220	0	7	7	-10	65	FKM	131T29	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8356
	2.5	3.5	0.21	220	0	7	7	-10	60	FKM	131T29	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8356
	2.5	3.5	0.21	220	0	7	7	-10	75	FKM	131T29	2995	481865	-	-	8	9	2.1	8356
	2.5	3.5	0.21	220	0	7	7	-10	65	FKM	131T2901	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8345
	2.5	3.5	0.21	220	0	7	7	-10	60	FKM	131T2901	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8345
	2.5	3.5	0.21	220	0	7	7	-10	75	FKM	131T2901	2995	481865	-	-	8	9	2.1	8345
	3	4.5	0.27	355	0	10	-	-10	75	FKM	131T22	2995	492425	-	-	14	-	2.2	8356
	3	4.5	0.27	355	0	10	-	-10	75	FKM	131T22	4270	481044	-	-	14	-	2.2	8356
	4.5	7	0.42	500	0	2	2	-10	65	FKM	131T21	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8356
	4.5	7	0.42	500	0	2	2	-10	60	FKM	131T21	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8356
	4.5	7	0.42	500	0	2	2	-10	75	FKM	131T21	2995	481865	-	-	8	9	2.0	8356
	4.5	7	0.42	500	0	2	2	-10	65	FKM	131T2101	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8345
	4.5	7	0.42	500	0	2	2	-10	60	FKM	131T2101	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8345
	4.5	7	0.42	500	0	2	2	-10	75	FKM	131T2101	2995	481865	-	-	8	9	2.1	8345

Notes:

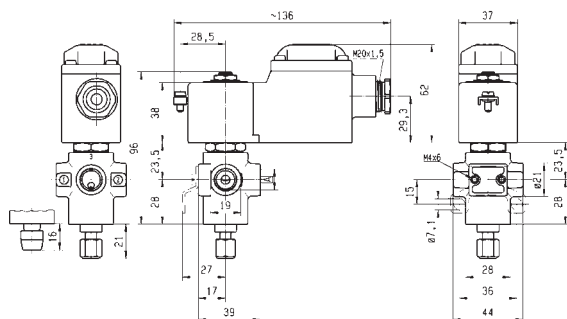
1. With manual override



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	2	2.5	2	-10	-10
To	1/4"	4.5	7	10	75	50



Drawing 8356



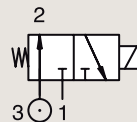
Drawing 8345

3/2

3 WAY VALVES DIRECT OPERATED T SERIES - BRASS VALVES, PIPE MOUNTING

BRASS PIPE MOUNTING

NORMALLY OPEN



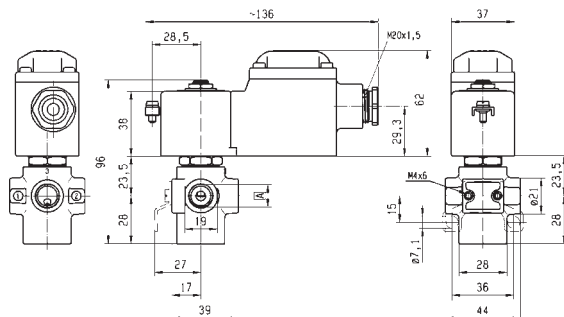
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn		Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C										
1/4"	2	2.5	0.15	140	0	10	5	-10	65	FKM	132T23	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8356
	2	2.5	0.15	140	0	10	5	-10	60	FKM	132T23	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8356
	2	2.5	0.15	140	0	10	5	-10	75	FKM	132T23	2995	481865	-	-	8	9	2.0	8356
	2	2.5	0.15	140	0	10	5	-10	65	FKM	132T2301 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8345
	2	2.5	0.15	140	0	10	5	-10	60	FKM	132T2301 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8345
	2	2.5	0.15	140	0	10	5	-10	75	FKM	132T2301 ₁	2995	481865	-	-	8	9	2.0	8345
	2.5	3.5	0.21	220	0	7	3.5	-10	65	FKM	132T29	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8356
	2.5	3.5	0.21	220	0	7	3.5	-10	60	FKM	132T29	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8356
	2.5	3.5	0.21	220	0	7	3.5	-10	75	FKM	132T29	2995	481865	-	-	8	9	2.0	8356
	3	4.5	0.27	355	0	7	-	-10	75	FKM	132T22	2995	492425	-	-	14	-	2.2	8356
	3	4.5	0.27	355	0	10	-	-10	75	FKM	132T22	4270	481044	-	-	14	-	2.2	8356

Notes:

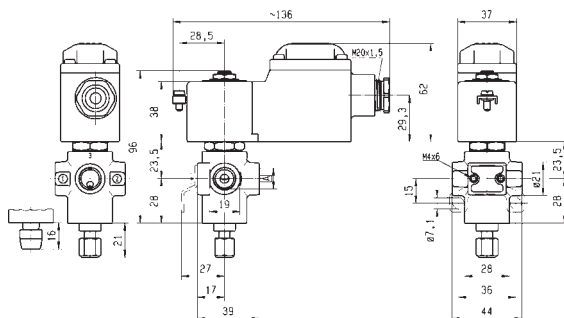
1. With manual override



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	2	2.5	3.5	-10	-10
To	1/4"	3	4.5	10	75	50



Drawing 8356



Drawing 8345

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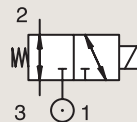
3 WAY VALVES DIRECT OPERATED

T SERIES -BRASS VALVES, PIPE MOUNTING

BRASS

PIPE MOUNTING

UNIVERSAL



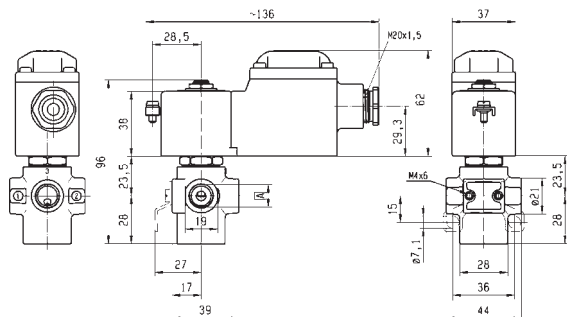
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Min	Max(MOPD)	Min	Max	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	bar	AC bar	DC bar	°C	°C											
1/4"	2	2.5	0.15	140	0	7	7	-10	65	FKM	133T23	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8356
	2	2.5	0.15	140	0	7	7	-10	60	FKM	133T23	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8356
	2	2.5	0.15	140	0	7	7	-10	75	FKM	133T23	2995	481865	-	-	8	9	2.1	8356
	2	2.5	0.15	140	0	7	7	-10	65	FKM	133T2301	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8345
	2	2.5	0.15	140	0	7	7	-10	60	FKM	133T2301	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8345
	2	2.5	0.15	140	0	7	7	-10	75	FKM	133T2301	2995	481865	-	-	8	9	2.1	8345
	3	4.5	0.27	355	0	2	2	-10	65	FKM	133T21	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8356
	3	4.5	0.27	355	0	2	2	-10	60	FKM	133T21	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8356
	3	4.5	0.27	355	0	2	2	-10	75	FKM	133T21	2995	481865	-	-	8	9	2.1	8356
	3	4.5	0.27	355	0	2	2	-10	65	FKM	133T2101	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8345
	3	4.5	0.27	355	0	2	2	-10	60	FKM	133T2101	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8345
	3	4.5	0.27	355	0	2	2	-10	75	FKM	133T2101	2995	481865	-	-	8	9	2.1	8345

Notes:

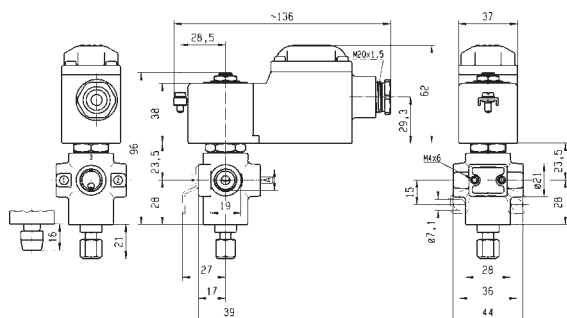
1. With manual override



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	2	2.5	2	-10	-10
To	1/4"	3	4.5	7	75	50



Drawing 8356



Drawing 8345





3 WAY VALVES DIRECT OPERATED

F SERIES - BRASS, STAINLESS STEEL AND POM
VALVES FOR FLANGE MOUNTING



Oil



Steam



Water



Air

3/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Kv(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	Brass/Sub-base Mounting	Normally Closed	5 mm	1 to 2.5	3.5	16	100	72
		Normally Open	5 mm	1.5 to 2.5	2.2	15	100	76
		Universal	5 mm	1.5 to 2.5	3.5	10	100	78
	316L Stainless St./Sub-base Mounting	Normally Closed	5 mm	1 to 2.5	3.5	15	100	80
			6 mm	2.5	3.5	12	75	82
	POM/Sub-base Mounting	Normally Closed	3 mm	2	2	10	50	84

3/2

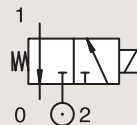
3 WAY VALVES DIRECT OPERATED

F SERIES - BRASS, STAINLESS STEEL AND POM VALVES FOR FLANGE MOUNTING

BRASS

SUB-BASE MOUNTING

NORMALLY CLOSED

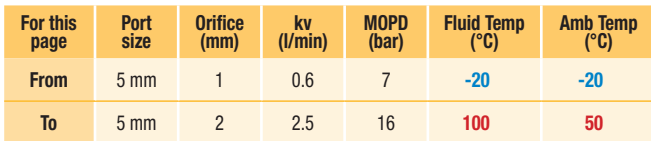


Port size	Orifice Ø mm	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv l/min	KV m³/h	Qn l/min	Min bar	Max(MOPD) AC bar	DC bar	Min °C	Max °C							AC W	DC W		
SB	1	0.6	0.04	38	0	-	10	-10	55	FKM	131F4490	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7057
	1	0.6	0.04	38	0	-	10	-10	65	FKM	131F4490	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7057
	1	0.6	0.04	38	0	10	10	-10	65	FKM	131F4490	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7057
	1.5	1.5	0.09	80	0	16	16	-10	65	FKM	131F4410	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	1.5	1.5	0.09	80	0	16	16	-10	60	FKM	131F4410	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	1.5	1.5	0.09	80	0	16	16	-10	100	FKM	131F4410	2995	481865	-	-	8	9	2.1	3509
	1.5	1.5	0.09	80	0	-	7	-20	65	PUR	131F4497 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8022
	1.5	1.5	0.09	80	0	7	7	-20	65	PUR	131F4497 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8022
	1.5	1.5	0.09	80	0	-	7	-20	50	PUR	131F4497 ₂	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	3509
	1.5	1.5	0.09	80	0	-	7	-20	75	PUR	131F4497 ₂	2995	482740	-	-	-	1.6	6.0/8.0	3509
	1.5	1.5	0.09	80	0	15	15	-10	65	FKM	E131F44	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	1.5	1.5	0.09	80	0	15	15	-10	60	FKM	E131F44	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	1.5	1.5	0.09	80	0	15	15	-10	100	FKM	E131F44	2995	481865	-	-	8	9	2.1	3509
	1.5	1.5	0.09	80	0	15	15	-10	65	FKM	E131F4450 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	1.5	1.5	0.09	80	0	15	15	-10	60	FKM	E131F4450 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	1.5	1.5	0.09	80	0	15	15	-10	100	FKM	E131F4450 ₁	2995	481865	-	-	8	9	2.1	3509
	2	2.5	0.15	140	0	10	10	-10	65	FKM	131F46	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2	2.5	0.15	140	0	10	10	-10	60	FKM	131F46	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2	2.5	0.15	140	0	10	10	-10	100	FKM	131F46	2995	481865	-	-	8	9	2.1	3509
	2	2.5	0.15	140	0	7	7	-10	65	FKM	131F4650 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2	2.5	0.15	140	0	7	7	-10	60	FKM	131F4650 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2	2.5	0.15	140	0	7	7	-10	100	FKM	131F4650 ₁	2995	481865	-	-	8	9	2.1	3509

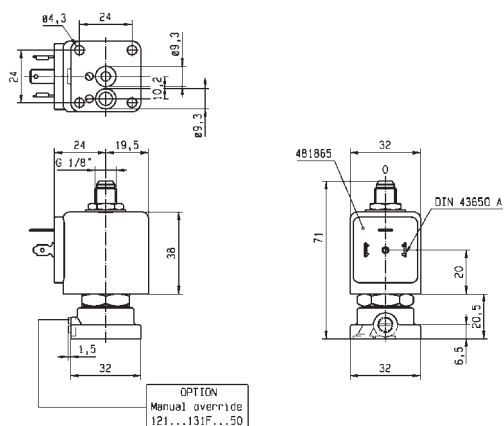
Notes:

1. With manual override

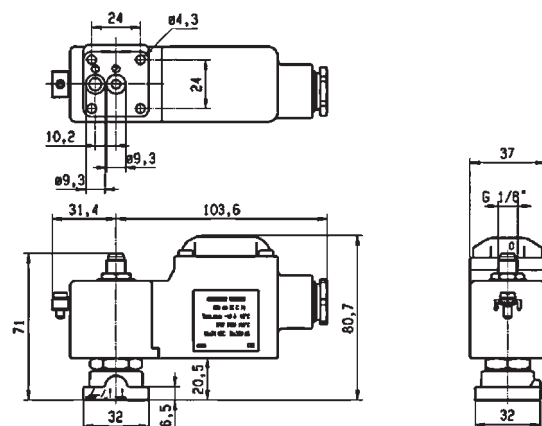
2. If media is water, max admissible fluid temperature is 40°C



Drawing 7057



Drawing 3509



Drawing 8022

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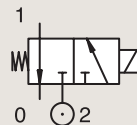
3 WAY VALVES DIRECT OPERATED

F SERIES - BRASS, STAINLESS STEEL AND POM VALVES FOR FLANGE MOUNTING

BRASS

SUB-BASE MOUNTING

NORMALLY CLOSED



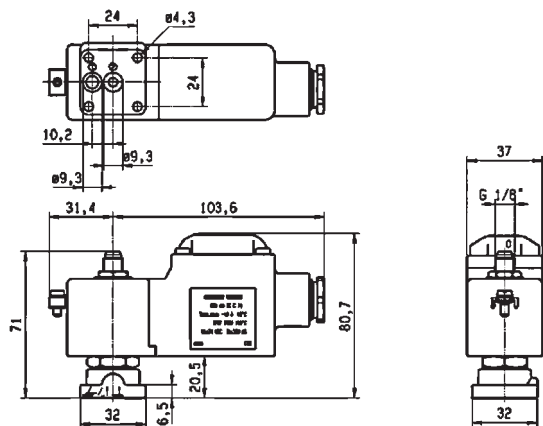
Port size	Orifice Ø	Flow factor			Operating Pressure Differential Max(MOPD)			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
								Min	Max							AC W	DC W		
		mm	Kv l/min	KV m³/h	Qn l/min	bar	AC bar	DC bar	°C	°C									
SB	2.5	3.5	0.21	220	0	9	9	-30	65	PUR	131F4310 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2.5	3.5	0.21	220	0	9	9	-30	60	PUR	131F4310 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2.5	3.5	0.21	220	0	9	9	-30	75	PUR	131F4310 ₁	2995	481865	-	-	8	9	2.1	3509
	2.5	3	0.18	180	0	-	2	-20	65	PUR	131F4397 ₁	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8022
	2.5	3	0.18	180	0	2	2	-20	65	PUR	131F4397 ₁	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8022
	2.5	3	0.18	180	0	-	2	-20	50	PUR	131F4397 ₁	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	3509
	2.5	3	0.18	180	0	-	2	-20	75	PUR	131F4397 ₁	2995	482740	-	-	-	1.6	6.0/8.0	3509
	2.5	3.5	0.21	220	0	7	7	-10	65	FKM	E131F43	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2.5	3.5	0.21	220	0	7	7	-10	60	FKM	E131F43	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2.5	3.5	0.21	220	0	7	7	-10	100	FKM	E131F43	2995	481865	-	-	8	9	2.1	3509
	2.5	3.5	0.21	220	0	7	7	-10	65	FKM	E131F4350 ₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2.5	3.5	0.21	220	0	7	7	-10	60	FKM	E131F4350 ₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2.5	3.5	0.21	220	0	7	7	-10	100	FKM	E131F4350 ₂	2995	481865	-	-	8	9	2.1	3509

Notes:

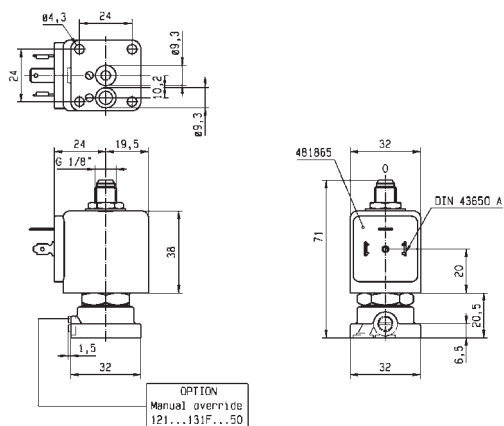
1. Valve only compatible with air and neutral gases
2. With manual override



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	5 mm	2.5	3	2	-30	-30
To	5 mm	2.5	3.5	9	100	50



Drawing 8022



Drawing 3509

3/2

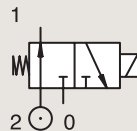
3 WAY VALVES DIRECT OPERATED

F SERIES - BRASS, STAINLESS STEEL AND POM VALVES FOR FLANGE MOUNTING

BRASS

SUB-BASE MOUNTING

NORMALLY OPEN



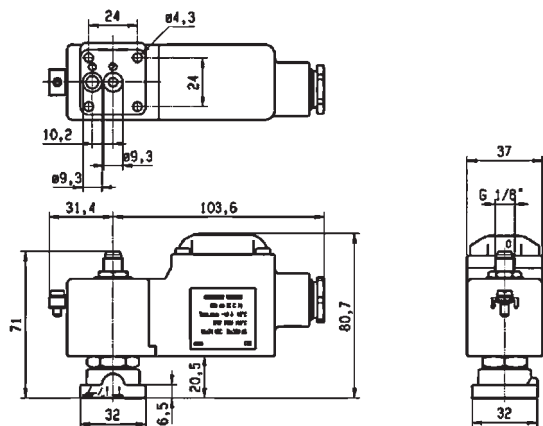
Port size	Orifice Ø mm	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv l/min	KV m³/h	Qn l/min	Min bar	Max(MOPD) bar	DC bar	Min °C	Max °C							AC W	DC W		
SB	1.5	1.4	0.08	80	0	15	15	-10	65	FKM	132F44	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	1.5	1.4	0.08	80	0	15	15	-10	60	FKM	132F44	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	1.5	1.4	0.08	80	0	15	15	-10	100	FKM	132F44	2995	481865	-	-	8	9	2.1	3509
	2	1.8	0.11	125	0	10	10	-10	65	FKM	132F46	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2	1.8	0.11	125	0	10	10	-10	60	FKM	132F46	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2	1.8	0.11	125	0	10	10	-10	100	FKM	132F46	2995	481865	-	-	8	9	2.1	3509
	2.5	2.2	0.13	160	0	7	7	-10	65	FKM	132F43	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2.5	2.2	0.13	160	0	7	7	-10	60	FKM	132F43	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2.5	2.2	0.13	160	0	7	7	-10	100	FKM	132F43	2995	481865	-	-	8	9	2.1	3509
	2.5	2.2	0.13	160	0	7	7	-10	65	PUR	132F4301 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2.5	2.2	0.13	160	0	7	7	-10	60	PUR	132F4301 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2.5	2.2	0.13	160	0	7	7	-10	75	PUR	132F4301 ₁	2995	481865	-	-	8	9	2.1	3509

Notes:

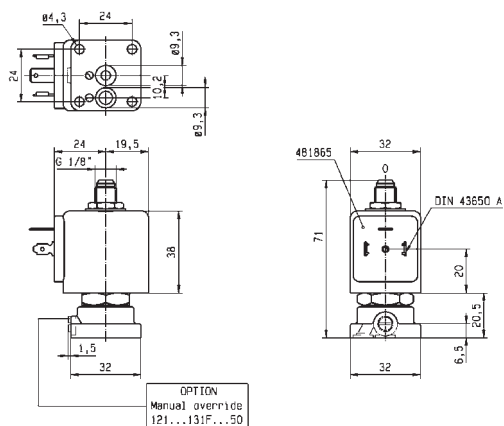
1. Valve only compatible with air and neutral gases



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	5 mm	1.5	1.4	7	-10	-10
To	5 mm	2.5	2.2	15	100	50



Drawing 8022



Drawing 3509

3/2

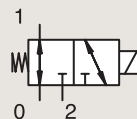
3 WAY VALVES DIRECT OPERATED

F SERIES - BRASS, STAINLESS STEEL AND POM VALVES FOR FLANGE MOUNTING

BRASS

SUB-BASE MOUNTING

UNIVERSAL



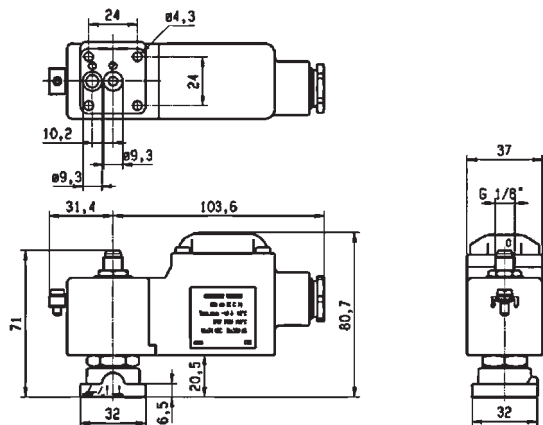
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	mm	Min	Max(MOPD)	Min	Max	Min							AC W	DC W		
SB	1.5	1.5	0.09	80	0	10	10	-10	65	FKM	E133F44	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	1.5	1.5	0.09	80	0	10	10	-10	60	FKM	E133F44	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	1.5	1.5	0.09	80	0	10	10	-10	100	FKM	E133F44	2995	481865	-	-	8	9	2.1	3509
	1.5	1.5	0.09	80	0	10	10	-10	65	FKM	E133F4450	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	1.5	1.5	0.09	80	0	10	10	-10	60	FKM	E133F4450	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	1.5	1.5	0.09	80	0	10	10	-10	100	FKM	E133F4450	2995	481865	-	-	8	9	2.1	3509
	2	2.5	0.15	140	0	7	7	-10	65	FKM	133F46	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2	2.5	0.15	140	0	7	7	-10	60	FKM	133F46	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2	2.5	0.15	140	0	7	7	-10	100	FKM	133F46	2995	481865	-	-	8	9	2.1	3509
	2	2.5	0.15	140	0	7	7	-10	65	FKM	133F4650	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2	2.5	0.15	140	0	7	7	-10	60	FKM	133F4650	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2	2.5	0.15	140	0	7	7	-10	100	FKM	133F4650	2995	481865	-	-	8	9	2.1	3509
	2.5	3.5	0.21	220	0	4	4	-10	40	FKM	E133F43	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8022
	2.5	3.5	0.21	220	0	4	4	-10	60	FKM	E133F43	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	2.5	3.5	0.21	220	0	4	4	-10	100	FKM	E133F43	2995	481865	-	-	8	9	2.1	3509

Notes:

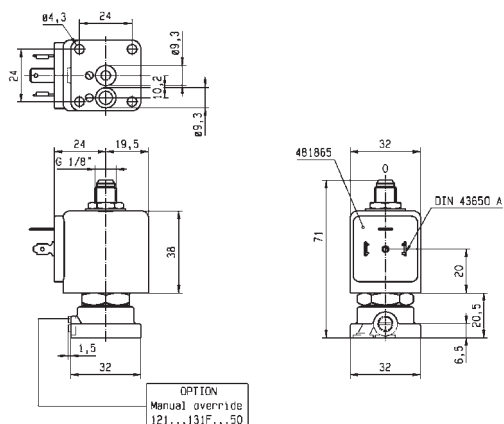
1. With manual override



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	5 mm	1.5	1.5	4	-10	-10
To	5 mm	2.5	3.5	10	100	50



Drawing 8022



Drawing 3509

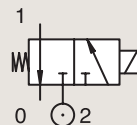
3/2

3 WAY VALVES DIRECT OPERATED

F SERIES - BRASS, STAINLESS STEEL AND POM VALVES FOR FLANGE MOUNTING

316L STAINLESS ST.
SUB-BASE MOUNTING

NORMALLY CLOSED



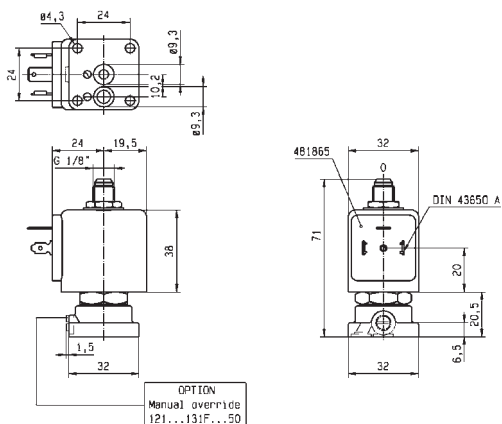
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn		Min	Max		Min	Max							AC W	DC W		
	mm	l/min	m³/h	l/min	bar	bar	bar	°C	°C										
SB	1.5	1.5	0.09	80	0	15	15	-10	65	FKM	131F5406	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8174
	1.5	1.5	0.09	80	0	15	15	-10	60	FKM	131F5406	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3509
	1.5	1.5	0.09	80	0	15	15	-10	100	FKM	131F5406	2995	481865	-	-	8	9	2.1	3509
	2.5	3.5	0.21	220	0	-	12	-25	65	FKM	U131F5695 ₁	-	492965.01	0-20	Ex ia IIC T6	-	0.3 to 3	9.0/10.1/10.2	3782
	2.5	3.5	0.21	220	0	-	12	-25	45	FKM	U131F5695 ₁	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8174
	2.5	3.5	0.21	220	0	-	12	-25	65	FKM	U131F5695 ₁	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	3782
	2.5	3.5	0.21	220	0	12	12	-25	75	FKM	U131F5695 ₁	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	3782
	2.5	3.5	0.21	220	0	12	12	-25	65	FKM	U131F5695 ₁	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2	8174
	2.5	3.5	0.21	220	0	12	12	-25	55	FKM	U131F5695 ₁	-	496560	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2	8174
	2.5	3.5	0.21	220	0	12	12	-25	50	FKM	U131F5695 ₁	-	496895	-	-	8	8	9.0/10.1/10.2	8174

Notes:

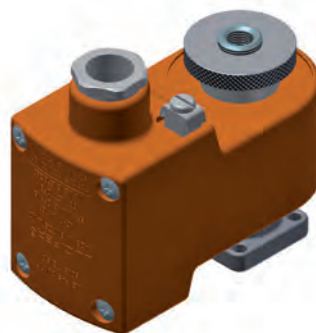
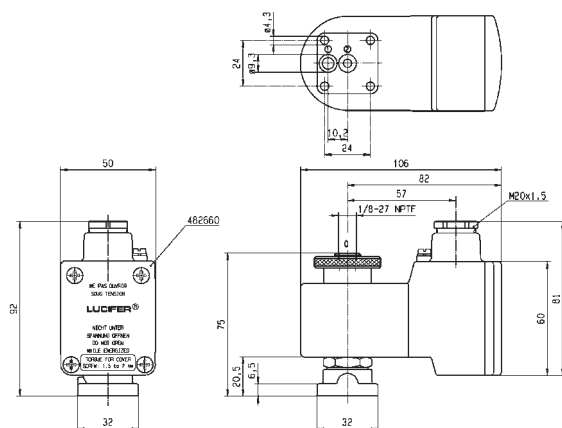
1. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



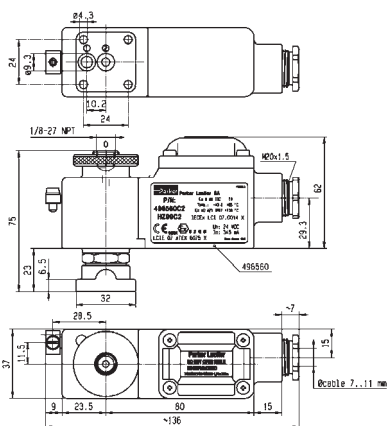
For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	5 mm	1.5	1.5	12	-25	-25
To	5 mm	2.5	3.5	15	100	50



Drawing 3509



Drawing 3782



Drawing 8174

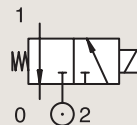
3/2

3 WAY VALVES DIRECT OPERATED

F SERIES - BRASS, STAINLESS STEEL AND POM VALVES FOR FLANGE MOUNTING

316L STAINLESS ST.
SUB-BASE MOUNTING

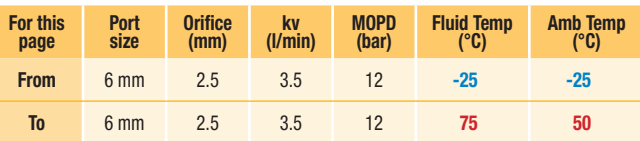
NORMALLY CLOSED



Port size	Orifice Ø	Flow factor			Operating Pressure Differential Min Max(MOPD)			Fluid Temp. Min Max		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
																AC W	DC W		
		mm	Kv l/min	KV m³/h	Qn l/min	AC bar	DC bar	°C	°C							AC W	DC W		
SB	2.5	3.5	0.21	220	0	-	12	-25	75	FKM	U131F5295	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8174
	2.5	3.5	0.21	220	0	12	12	-25	65	FKM	U131F5295	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2	8174
	2.5	3.5	0.21	220	0	12	12	-25	65	FKM	U131F5295	-	496560	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2	8174
	2.5	3.5	0.21	220	0	-	12	-25	75	FKM	U131F5295	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	8343
	2.5	3.5	0.21	220	0	12	12	-25	75	FKM	U131F5295	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	8343
	2.5	3.5	0.21	220	0	12	12	-25	50	FKM	U131F5295	-	496895	-	-	8	8	9.0/10.1/10.2	8174
	2.5	3.5	0.21	220	0	-	12	-25	50	FKM	U131F7695	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2/10.3	8174
	2.5	3.5	0.21	220	0	12	12	-25	75	FKM	U131F7695	-	497105	1-21	Ex db IIC T4 to T6	8	8	9.0/10.1/10.2/10.3	8302
	2.5	3.5	0.21	220	0	12	12	-25	65	FKM	U131F7695	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2/10.3	8174
	2.5	3.5	0.21	220	0	12	12	-25	50	FKM	U131F7695	-	496895	-	-	8	8	9.0/10.1/10.2/10.3	8174

Notes:

1. Valve only compatible with air and neutral gases



Technical drawing of the 2500 Series Transmitter, showing front and side views with dimensions in inches and millimeters.

Front View Dimensions:

- Top width: 30 (762)
- Top width: 43 (1092)
- Top width: 1/2-14 NPT
- Top width: 52 (1315)
- Top width: 52 (1315)
- Top width: 497.05 (12618)
- Top width: 10.3 (261)
- Left height: 52 (1315)
- Left height: 32 (813)
- Left height: 24 (610)
- Left height: 24 (610)
- Left height: 10.5 (267)
- Left height: 24 (610)
- Left height: 68 (1728)
- Bottom width: 114.8 (2915)

Side View Dimensions:

- Top width: 1/8-27 NPT
- Top width: C
- Left height: 90 (2286)
- Left height: 47 (1194)
- Left height: 75 (1905)
- Left height: 6.5 (165)



3/2

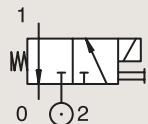
3 WAY VALVES DIRECT OPERATED

F SERIES - BRASS, STAINLESS STEEL AND POM VALVES FOR FLANGE MOUNTING

POM

SUB-BASE MOUNTING

NORMALLY CLOSED



Port size	Orifice Ø	Flow factor			Operating Pressure Differential Max(MOPD)			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		mm	Kv l/min	KV m³/h	Qn l/min	Min bar	AC bar	DC bar	Min °C							Max °C	AC W		
SB	2	2	0.12	140	0	10	10	-10	50	FKM	E131F26 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1/3.0	3601
	2	2	0.12	140	0	10	10	-10	50	FKM	E131F26 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1/3.0	3601
	2	2	0.12	140	0	10	10	-10	50	FKM	E131F26 ₁₂	2995	481865	-	-	8	9	2.1/3.0	3601

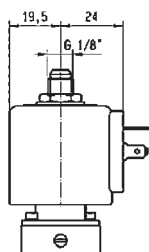
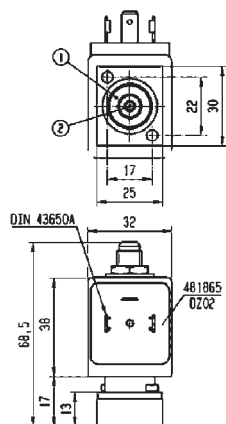
Notes:

1. With manual override

2. 20% Switch-on - max. 2 min



For this page	Port size	Orifice (mm)	kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	3 mm	2	2	10	-10	-10
To	3 mm	2	2	10	50	50



Drawing 3601





3 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING



Oil



Steam



Water



Air

3/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Kv(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	316L Stainless St./Pipe Mounting	Universal	1/4"	2 to 2.5	3.5	12	75	88
	303 Stainless St./Pipe Mounting	Normally Closed	1/4"	1 to 2.5	3.5	15	180	90
		Universal	1/4"	1.5 to 2.5	3.5	10	100	94

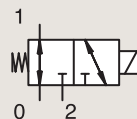
3/2

3 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

316L STAINLESS ST.
PIPE MOUNTING

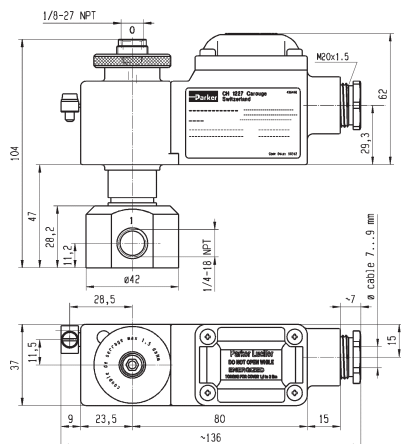
UNIVERSAL



Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		mm	Kv l/min	m³/h	Qn l/min	Min bar	Max(MOPD) bar	Min °C	Max °C							AC W	DC W		
1/4" NPT	2	2.5	0.15	140	0	-	12	-25	65	FKM	U133V5595	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1	8024
	2	2.5	0.15	140	0	12	12	-25	65	FKM	U133V5595	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1	6713
	2	2.5	0.15	140	0	12	12	-25	65	FKM	U133V5595	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1	8024
	2	2.5	0.15	140	0	12	12	-25	65	FKM	U133V5595	-	496560	1-21	Ex db mb IIC T4	8	8	9.0/10.1	8024
	2	2.5	0.15	140	0	12	12	-25	50	FKM	U133V5595	-	496895	-	-	8	8	9.0/10.1	8024
	2	2.5	0.15	140	0	-	12	-25	65	FKM	U133V7595	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.3	8166
	2	2.5	0.15	140	0	12	12	-25	65	FKM	U133V7595	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.3	8166
	2	2.5	0.15	140	0	12	12	-25	65	FKM	U133V7595	-	497105	1-21	Ex db IIC T4 to T6	8	8	9.0/10.1/10.3	8299
	2	2.5	0.15	140	0	12	12	-25	50	FKM	U133V7595	-	496895	-	-	8	8	9.0/10.1/10.3	8166
	2.5	3.5	0.21	220	0	-	8.5	-25	65	FKM	U133V5695	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1	8024
	2.5	3.5	0.21	220	0	8.5	8.5	-25	75	FKM	U133V5695	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1	6713
	2.5	3.5	0.21	220	0	8.5	8.5	-25	65	FKM	U133V5695	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1	8024
	2.5	3.5	0.21	220	0	8.5	8.5	-25	65	FKM	U133V5695	-	496560	1-21	Ex db mb IIC T4	8	8	9.0/10.1	8024
	2.5	3.5	0.21	220	0	8.5	8.5	-25	50	FKM	U133V5695	-	496895	-	-	8	8	9.0/10.1	8024
	2.5	3.5	0.21	220	0	-	8.5	-25	65	FKM	U133V7695	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.3	8166
	2.5	3.5	0.21	220	0	8.5	8.5	-25	65	FKM	U133V7695	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.3	8166
	2.5	3.5	0.21	220	0	8.5	8.5	-25	65	FKM	U133V7695	-	497105	1-21	Ex db IIC T4 to T6	8	8	9.0/10.1/10.3	8299
	2.5	3.5	0.21	220	0	8.5	8.5	-25	50	FKM	U133V7695	-	496895	-	-	8	8	9.0/10.1/10.3	8166

Notes:

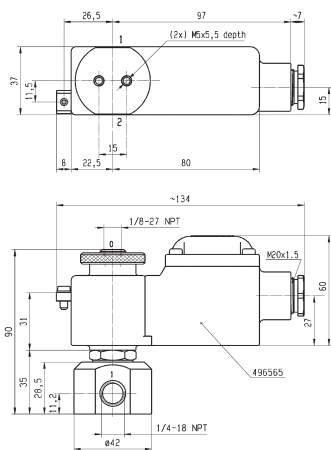
1. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



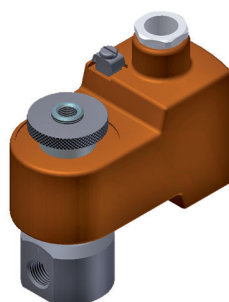
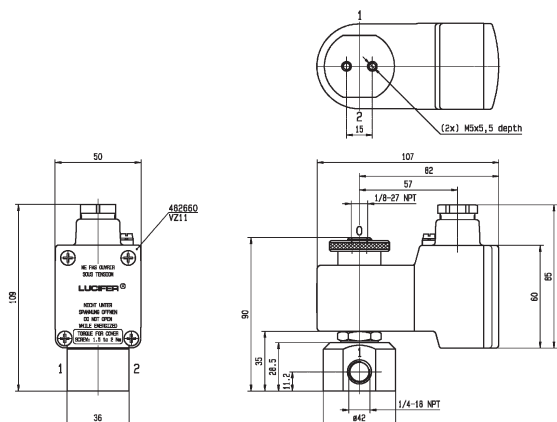
Drawing 8166



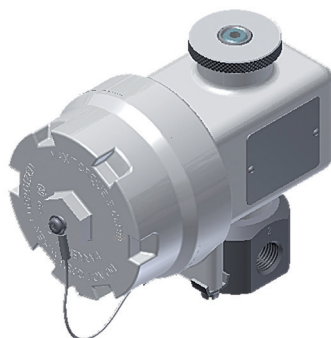
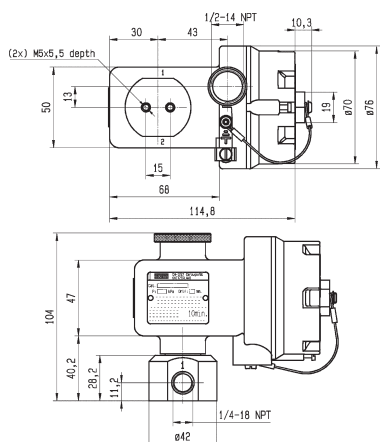
For this page	Port size	Orifice (mm)	Kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	2	2.5	8.5	-25	-25
To	1/4"	2.5	3.5	12	75	50



Drawing 8024



Drawing 6713



Drawing 8299

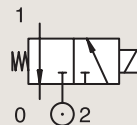
3/2

3 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

303 STAINLESS ST. PIPE MOUNTING

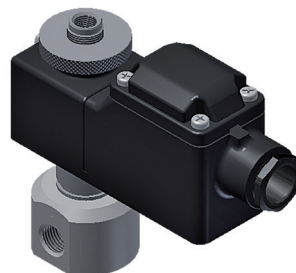
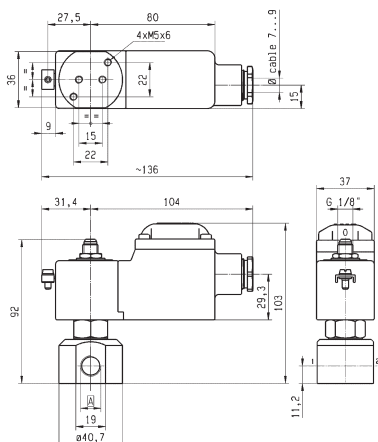
NORMALLY CLOSED



Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Min	Max(MOPD)	Min	Max	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	bar	AC bar	DC bar	°C	°C											
1/4"	1	0.6	0.04	32	0	-	10	-10	55	FKM	131V5490	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	6740
	1	0.6	0.04	32	0	-	10	-10	65	FKM	131V5490	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8344
	1	0.6	0.04	32	0	-	10	-10	65	FKM	131V5490	-	495900	1-21	Ex db mb IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8344
	1.5	1.5	0.09	80	0	15	15	-10	65	FKM	131V5406	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8024
	1.5	1.5	0.09	80	0	15	15	-10	60	FKM	131V5406	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8024
	1.5	1.5	0.09	80	0	15	15	-10	100	FKM	131V5406	2995	481865	-	-	8	9	2.1	8116
	1.5	1.5	0.09	80	0	15	15	-10	65	Ruby	131V5463 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8024
	1.5	1.5	0.09	80	0	15	15	-10	60	Ruby	131V5463 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8024
	1.5	1.5	0.09	80	0	15	15	-10	100	Ruby	131V5463 ₁	2995	481865	-	-	8	9	2.1	8116
	1.5	1.5	0.09	80	0	-	7	-20	65	PUR	131V5497 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	3.0/6.0/8.0	8024
	1.5	1.5	0.09	80	0	7	7	-20	65	PUR	131V5497 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	3.0/6.0/8.0	8024
	1.5	1.5	0.09	80	0	-	7	-20	50	PUR	131V5497 ₂	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	3.0/6.0/8.0	8116
	1.5	1.5	0.09	80	0	-	7	-20	75	PUR	131V5497 ₂	2995	482740	-	-	-	1.6	3.0/6.0/8.0	8116

Notes:

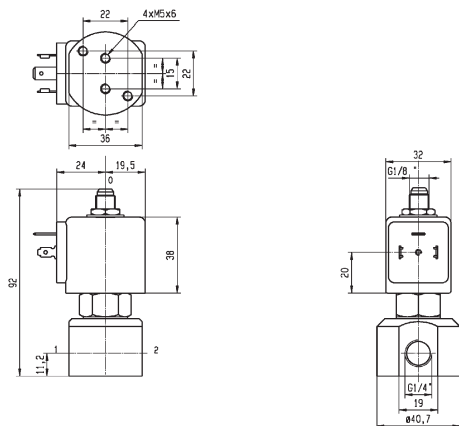
1. Valve only compatible with hydraulic oil and neutral liquids
2. If media is water, max admissible fluid temperature is 40°C



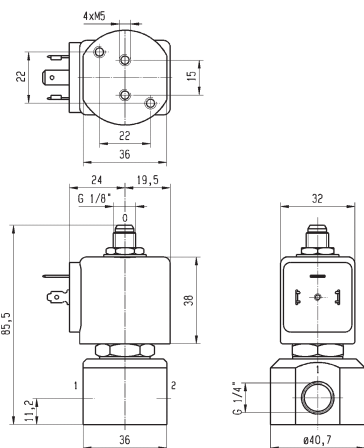
Drawing 8344



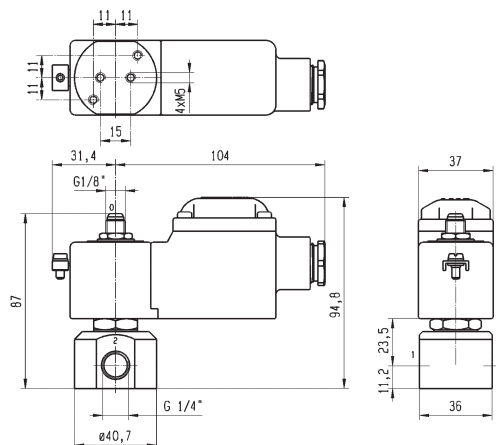
For this page	Port size	Orifice (mm)	Kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	1	0.6	7	-20	-20
To	1/4"	1.5	1.5	15	100	50



Drawing 6740



Drawing 8116



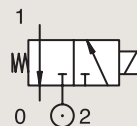
3/2

3 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

303 STAINLESS ST.
PIPE MOUNTING

NORMALLY CLOSED



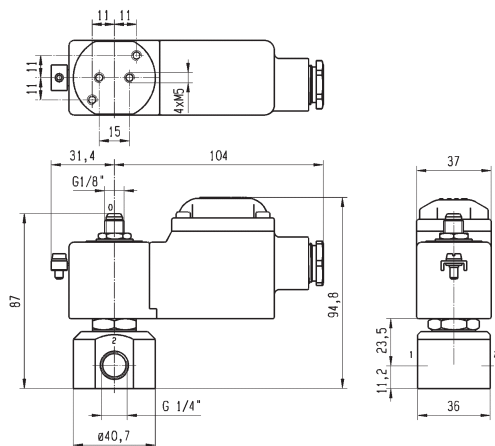
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal				ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	KV	Qn	Min	Max(MOPD)	Min	Max	AC W							DC W			
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C		Valve Ref.	Housing Ref.	Coil Ref.						
1/4"	2.5	3.5	0.21	220	0	7	7	-10	65	FKM	131V5306	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8024
	2.5	3.5	0.21	220	0	7	7	-10	60	FKM	131V5306	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8116
	2.5	3.5	0.21	220	0	7	7	-10	100	FKM	131V5306	2995	481865	-	-	8	9	2.1	8116
	2.5	3.5	0.21	220	0	7	7	-30	65	Ruby	131V5363 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8024
	2.5	3.5	0.21	220	0	7	7	-30	60	Ruby	131V5363 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8116
	2.5	3.5	0.21	220	0	7	7	-30	100	Ruby	131V5363 ₁	2995	481865	-	-	8	9	2.0	8116
	2.5	3.5	0.21	220	0	7	7	-30	180	Ruby	131V5363 ₁	4270	486265	-	-	14	14	2.0	8116
	2.5	3	0.18	180	0	-	2	-20	65	PUR	131V5397 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8024
	2.5	3	0.18	180	0	2	2	-20	65	PUR	131V5397 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8024
	2.5	3	0.18	180	0	-	2	-20	50	PUR	131V5397 ₂	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	8116
	2.5	3	0.18	180	0	-	2	-20	75	PUR	131V5397 ₂	2995	482740	-	-	-	1.6	6.0/8.0	8116

Notes:

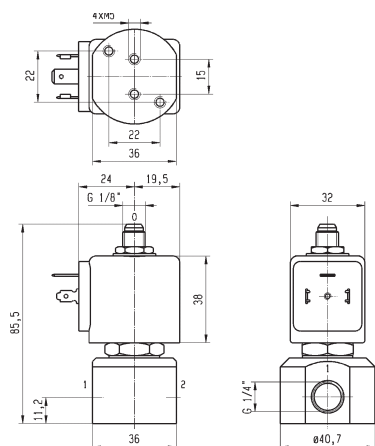
1. Valve only compatible with hydraulic oil and neutral liquids
2. If media is water, max admissible fluid temperature is 40°C



For this page	Port size	Orifice (mm)	Kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	2.5	3.0	2	-30	-20
To	1/4"	2.5	3.5	7	180	50



Drawing 8024



Drawing 8116

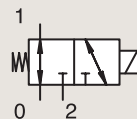
3/2

3 WAY VALVES DIRECT OPERATED

V SERIES - STAINLESS STEEL VALVES FOR PIPE MOUNTING

303 STAINLESS ST.
PIPE MOUNTING

UNIVERSAL



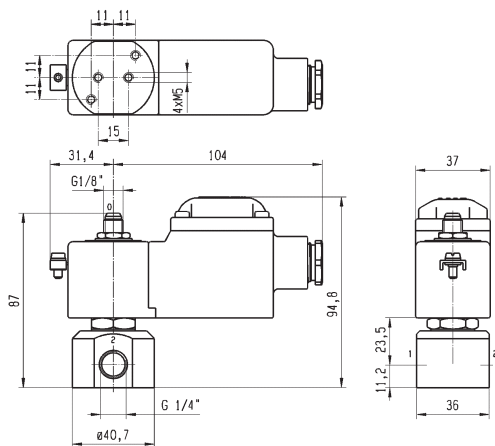
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Qn	Min	AC	DC	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	l/min	bar	bar	bar	°C	°C										
1/4"	1.5	1.5	0.09	80	0	10	10	-10	65	FKM	133V5406	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8024
	1.5	1.5	0.09	80	0	10	10	-10	60	FKM	133V5406	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8116
	1.5	1.5	0.09	80	0	10	10	-10	100	FKM	133V5406	2995	481865	-	-	8	9	2.1	8116
	1.5	1.5	0.09	80	0	10	10	-30	65	Ruby	133V5463 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8024
	1.5	1.5	0.09	80	0	4	4	-30	60	Ruby	133V5463 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8116
	1.5	1.5	0.09	80	0	4	4	-30	100	Ruby	133V5463 ₁	2995	481865	-	-	8	9	2.0	8116
	2.5	3.5	0.21	220	0	4	4	-10	65	FKM	133V5306	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8024
	2.5	3.5	0.21	220	0	4	4	-10	60	FKM	133V5306	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8116
	2.5	3.5	0.21	220	0	4	4	-10	100	FKM	133V5306	2995	481865	-	-	8	9	2.1	8116
	2.5	3.5	0.21	220	0	4	4	-30	65	Ruby	133V5363 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.0	8024
	2.5	3.5	0.21	220	0	4	4	-30	60	Ruby	133V5363 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0	8116
	2.5	3.5	0.21	220	0	4	4	-30	100	Ruby	133V5363 ₁	2995	481865	-	-	8	9	2.0	8116

Notes:

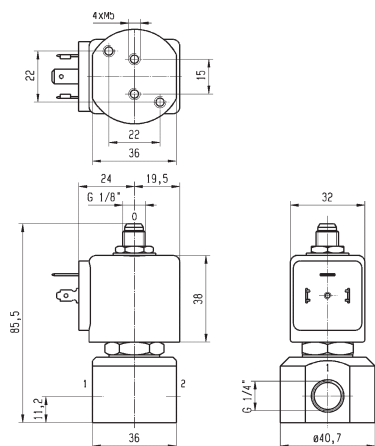
1. Valve only compatible with hydraulic oil and neutral liquids



For this page	Port size	Orifice (mm)	Kv (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	1.5	1.5	4	-30	-10
To	1/4"	2.5	3.5	10	100	50



Drawing 8024



Drawing 8116





3 WAY VALVES DIRECT OPERATED

X SERIES - BRASS, ALUMINIUM, STAINLESS STEEL
VALVES FOR PIPE MOUNTING



3/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	Brass/Pipe Mounting	Universal	1/4"	6	680	12	75	98
	316L Stainless St./Pipe Mounting	Universal	1/4"	6	680	12	75	100
			3/8"	6	680	12	65	102
	316L Stainless St./Sub-base Mounting	Universal	1/4"	6	680	12	75	106
	Anodized Aluminium/Pipe Mounting	Universal	1/4"	6	680	12	75	108

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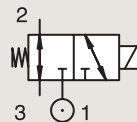
3 WAY VALVES DIRECT OPERATED

X SERIES - BRASS, ALUMINIUM, STAINLESS STEEL VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

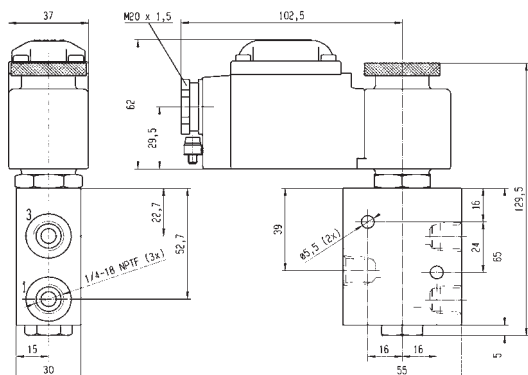
UNIVERSAL



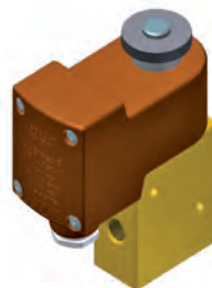
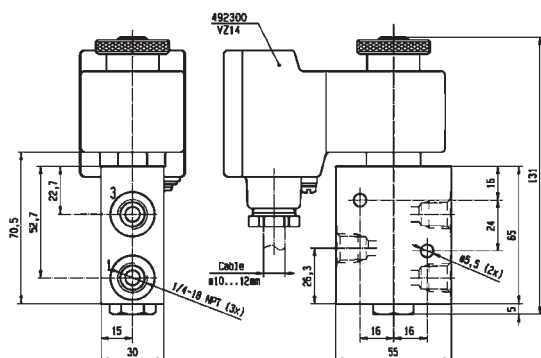
Port size	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential Max(MOPD)			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min bar	AC bar	DC bar	Min °C	Max °C							AC W	DC W		
1/4" NPT	6	680	0	-	12	-25	65	NBR	U133X0111	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8280
	6	680	0	12	12	-25	65	NBR	U133X0111	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	7422
	6	680	0	12	12	-25	65	NBR	U133X0111	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8280
	6	680	0	12	12	-25	65	NBR	U133X0111	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8280
	6	680	0	-	12	-25	65	NBR	U133X0111	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	7422
	6	680	0	12	12	-25	50	NBR	U133X0111	-	496895	-	-	8	8	9.0/10.1/10.2	8280



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	680	12	-25	-25
To	1/4"	6	680	12	65	65



Drawing 8280



Drawing 7422

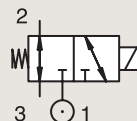
3/2

3 WAY VALVES DIRECT OPERATED

X SERIES - BRASS, ALUMINIUM, STAINLESS STEEL VALVES FOR PIPE MOUNTING

316L STAINLESS ST.
PIPE MOUNTING

UNIVERSAL



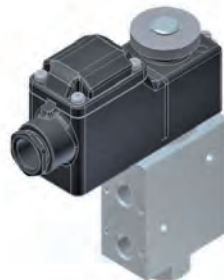
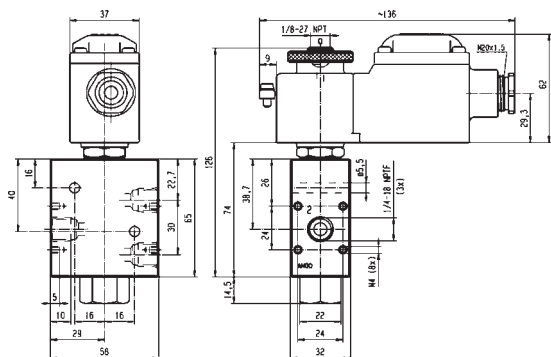
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	Max	Min	Max							AC W	DC W		
	mm	On l/min	bar	AC bar	DC bar	°C	°C										
1/4" NPTF	6	680	0	-	12	-25	65	NBR	U133X5156 ₁₂	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8168
	6	680	0	-	12	-25	65	NBR	U133X5156 ₁₂	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	7770
	6	680	0	12	12	-25	65	NBR	U133X5156 ₁₂	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	7770
	6	680	0	12	12	-25	65	NBR	U133X5156 ₁₂	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8168
	6	680	0	12	12	-25	65	NBR	U133X5156 ₁₂	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8168
	6	680	0	12	12	-25	50	NBR	U133X5156 ₁₂	-	496895	-	-	8	8	9.0/10.1/10.2	8168
	6	680	0	-	12	-25	65	NBR	U133X5196 ₂	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8169
	6	680	0	-	12	-25	65	NBR	U133X5196 ₂	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	8169
	6	680	0	12	12	-25	65	NBR	U133X5196 ₂	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	8169
	6	680	0	12	12	-25	65	NBR	U133X5196 ₂	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8169
	6	680	0	12	12	-25	65	NBR	U133X5196 ₂	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8169
	6	680	0	12	12	-25	50	NBR	U133X5196 ₂	-	496895	-	-	8	8	9.0/10.1/10.2	8169

Notes:

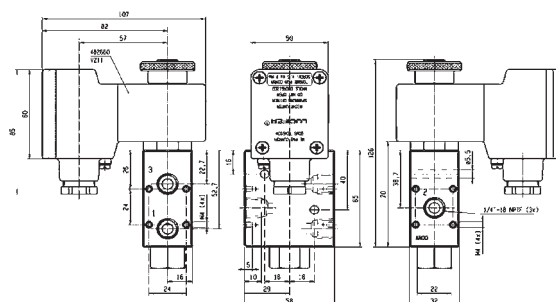
1. With manual override
2. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



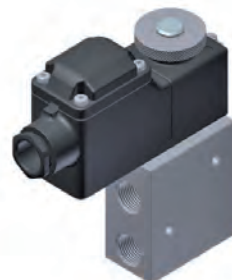
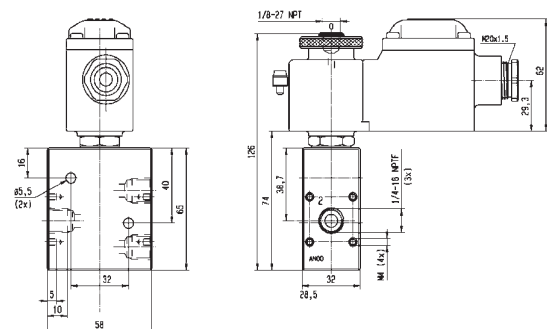
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	680	12	-25	-25
To	1/4"	6	680	12	65	65



Drawing 8168



Drawing 7770

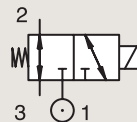


Drawing 8169

3 WAY VALVES DIRECT OPERATED

X SERIES - BRASS, ALUMINIUM, STAINLESS STEEL VALVES FOR PIPE MOUNTING

316L STAINLESS ST. PIPE MOUNTING

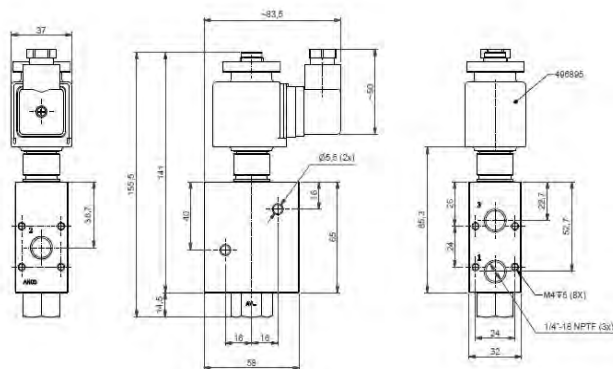


UNIVERSAL

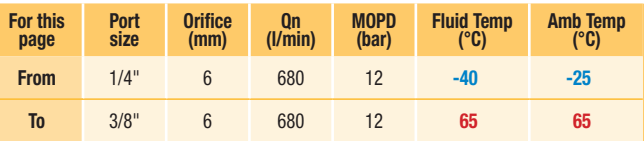
Port Size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal				ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max		Valve Ref.		Coil Ref.			AC W	DC W		
			Qn l/min	bar	AC bar	DC bar	°C										
BSP	mm																
1/4" NPTF	6	680	0	12	12	-40	65	VMQ	U133X7759 ₁₋₂	-	496895	-	-	8	8	9.0;10.1;10.2;10.3	8544
	6	680	0	-	12	-40	65	VMQ	U133X7759 ₁₋₂	-	496565	-	0-20 EX ia IIB/IIC T4 to T6	-	0.3	9.0;10.1;10.2;10.3	8539
	6	680	0	12	12	-40	65	VMQ	U133X7759 ₁₋₂	-	497105	-	1-21 Ex db IIC T4 to T6	8	8	9.0;10.1;10.2;10.3	8537
	6	680	0	12	12	-40	65	VMQ	U133X7759 ₁₋₂	-	496700	-	1-21 Ex db mb IIC T4 to T6	6	6	9.0;10.1;10.2;10.3	8545
	6	680	0	12	12	-40	65	VMQ	U133X7759 ₁₋₂	-	492310	-	1-21 Ex db II T4 to T5	9	8	9.0;10.1;10.2;10.3	8548
	6	680	0	-	12	-40	65	VMQ	U133X7759 ₁₋₂	-	492210	-	1-21Ex eb mb IIC T5 to T6	-	1.8	9.0;10.1;10.2;10.3	8548
	6	680	0	12	12	-40	65	VMQ	U133X7709 ₂	-	496895	-	-	8	8	9.0;10.1;10.2;10.3	8551
	6	680	0	-	12	-40	65	VMQ	U133X7709 ₂	-	496565	-	0-20 Ex ia IIB/IIC T4 to T6	-	0.3	9.0;10.1;10.2;10.3	8550
	6	680	0	12	12	-40	65	VMQ	U133X7709 ₂	-	497105	-	1-21 Ex db IIC T4 to T6			9.0;10.1;10.2;10.3	8537
	6	680	0	12	12	-40	65	VMQ	U133X7709 ₂	-	496700	-	1-21 Ex db mb IIC T4 to T6			9.0;10.1;10.2;10.3	8545
	6	680	0	12	12	-40	65	VMQ	U133X7709 ₂	-	492310	-	1-21 Ex mb II T4 to T5			9.0;10.1;10.2;10.3	8548
	6	680	0	-	12	-40	65	VMQ	U133X7709 ₂	-	492210	-	1-21 Ex eb mb IIC T5 to T6			9.0;10.1;10.2;10.3	8548
3/8" NPTF	6	680	0	-	12	-25	65	NBR	U133X5296 ₂	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8169
	6	680	0	12	12	-25	65	NBR	U133X5296 ₂	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	7669
	6	680	0	12	12	-25	65	NBR	U133X5296 ₂	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8169
	6	680	0	-	12	-25	65	NBR	U133X5296 ₂	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	7669
	6	680	0	12	12	-25	65	NBR	U133X5296 ₂	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8169
	6	680	0	12	12	-25	50	NBR	U133X5296 ₂	-	496895	-	-	8	8	9.0/10.1/10.2	8169

Notes:

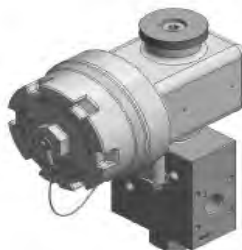
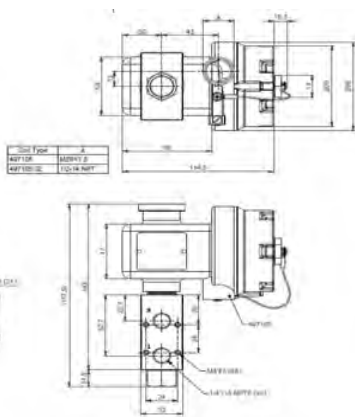
2. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



Drawing 8544



Drawing 8539



Drawing 8537

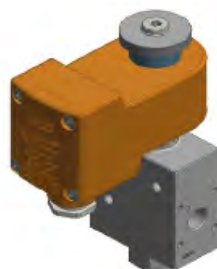
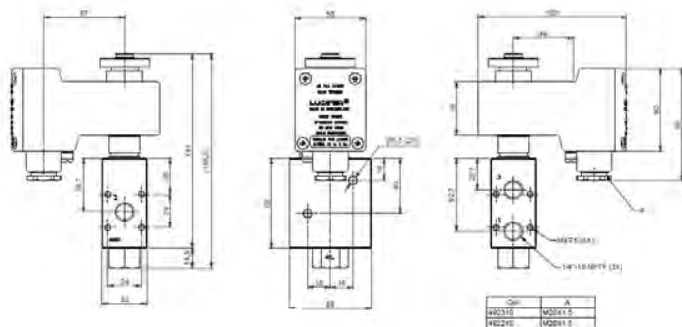


Drawing 8545

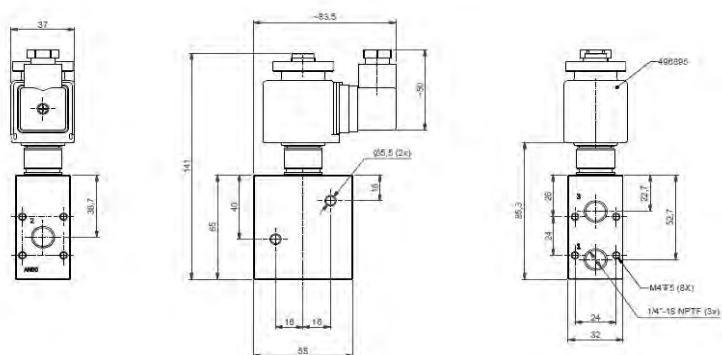
3 WAY VALVES DIRECT OPERATED

3 WAY VALVES DIRECT OPERATED

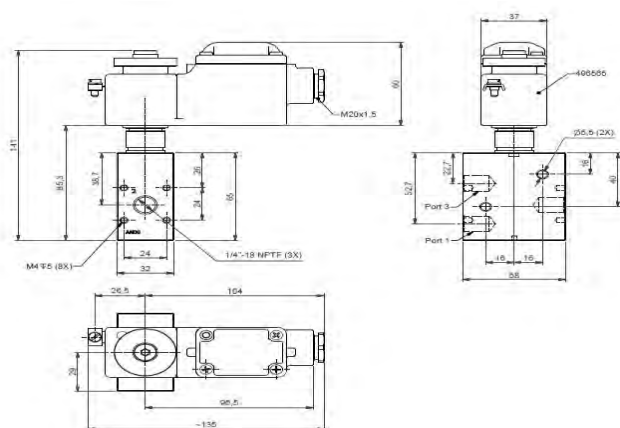
X SERIES - BRASS, ALUMINIUM, STAINLESS STEEL VALVES FOR PIPE MOUNTING



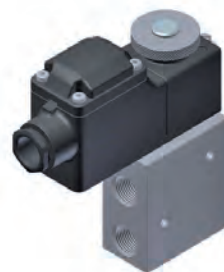
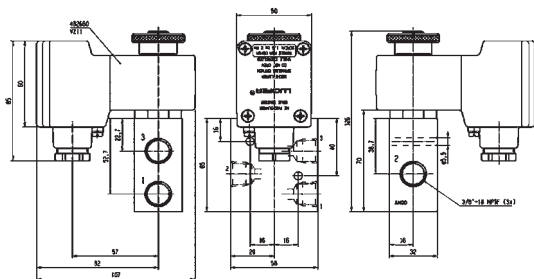
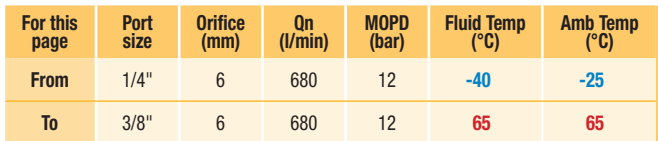
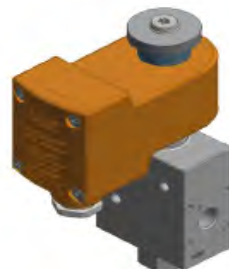
Drawing 8546



Drawing 8551



Drawing 8550

[illegible]

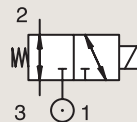
Drawing 8548

3/2

3 WAY VALVES DIRECT OPERATED

X SERIES - BRASS, ALUMINIUM, STAINLESS STEEL VALVES FOR PIPE MOUNTING

316L STAINLESS ST.
SUB-BASE MOUNTING



UNIVERSAL

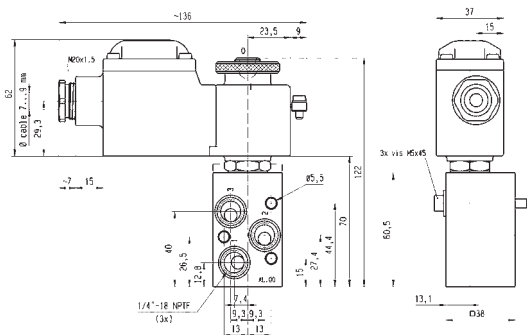
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4" NPTF	6	680	0	-	12	-25	65	FKM	U133X5195 ₁	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8172
	6	680	0	12	12	-25	65	FKM	U133X5195 ₁	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	3572
	6	680	0	12	12	-25	65	FKM	U133X5195 ₁	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8172
	6	680	0	-	12	-25	65	FKM	U133X5195 ₁	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	3572
	6	680	0	12	12	-25	65	FKM	U133X5195 ₁	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8172
	6	680	0	12	12	-25	50	FKM	U133X5195 ₁	-	496895	-	-	8	8	9.0/10.1/10.2	8172

Notes:

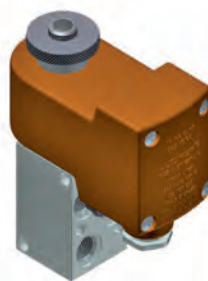
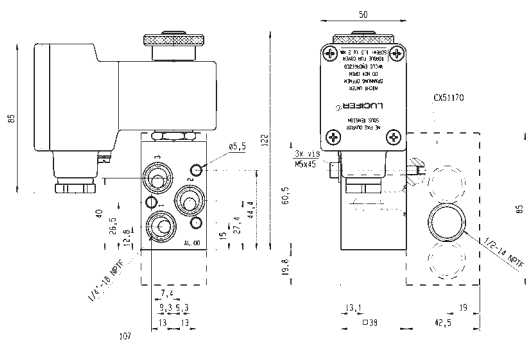
1. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	680	12	-25	-25
To	1/4"	6	680	12	65	65



Drawing 8172



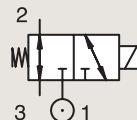
Drawing 3572

3/2

3 WAY VALVES DIRECT OPERATED

X SERIES - BRASS, ALUMINIUM, STAINLESS STEEL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

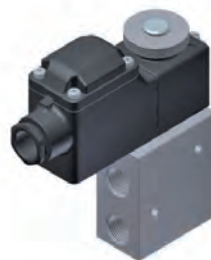
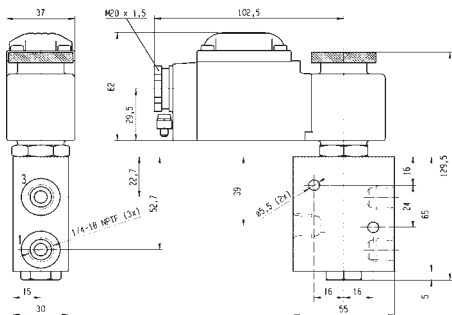


UNIVERSAL

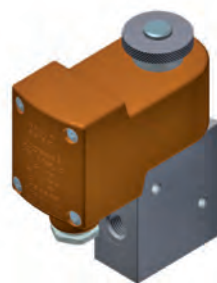
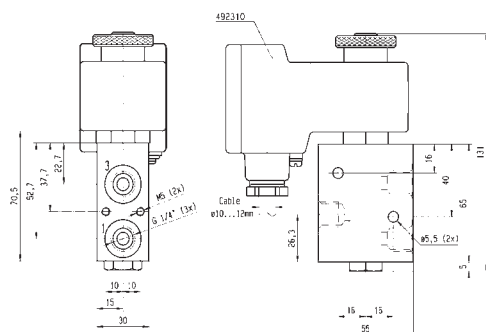
Port size	Orifice Ø	Flow factor	Operating Pressure Differential Max(MOPD)			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	AC bar	DC bar	Min °C	Max °C							AC W	DC W		
1/4"	BSP	mm	Qn l/min	bar	bar	°C	°C										
	6	680	0	-	12	-25	65	NBR	133X01	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8280
	6	680	0	12	12	-25	75	NBR	133X01	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	6960
	6	680	0	12	12	-25	65	NBR	133X01	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8280
	6	680	0	12	12	-25	65	NBR	133X01	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8280
	6	680	0	-	12	-25	65	NBR	133X01	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	6960
1/4" NPT	6	680	0	12	12	-25	50	NBR	133X01	-	496895	-	-	8	8	9.0/10.1/10.2	8280
	6	680	0	-	12	-25	65	NBR	U133X01	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8280
	6	680	0	12	12	-25	65	NBR	U133X01	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8280
	6	680	0	-	12	-25	65	NBR	U133X01	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	6960
	6	680	0	12	12	-25	65	NBR	U133X01	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	6960
	6	680	0	12	12	-25	65	NBR	U133X01	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8280
	6	680	0	12	12	-25	50	NBR	U133X01	-	496895	-	-	8	8	9.0/10.1/10.2	8280



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	680	12	-25	-25
To	1/4"	6	680	12	75	65



Drawing 8280



Drawing 6960





3 WAY VALVES DIRECT OPERATED

X SERIES MANUAL RESET - BRASS, STAINLESS STEEL VALVES
FOR PIPE MOUNTING



3/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Manual Reset	Brass/Pipe Mounting	Universal	1/4"	6	680	12	65	112
	316L Stainless St./Pipe Mounting	Universal	1/4"	6	680	12	65	112
			3/8"	6	680	12	65	114

3/2

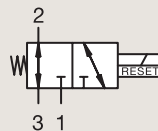
3 WAY VALVES DIRECT OPERATED

X SERIES MANUAL RESET - BRASS, STAINLESS STEEL VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

UNIVERSAL- MANUAL RESET

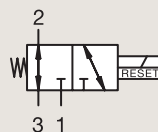


Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
1/4" NPT	6	680	0	-	12	-25	65	NBR	U033X0111	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2/12.0	8347
	6	680	0	12	12	-25	65	NBR	U033X0111	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2/12.0	8347
	6	680	0	12	12	-25	65	NBR	U033X0111	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/12.0	8347
	6	680	0	-	12	-25	65	NBR	U033X0111	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2/12.0	8347
	6	680	0	12	12	-25	65	NBR	U033X0111	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/12.0	8347
	6	680	0	12	12	-25	65	NBR	U033X0111	-	496895	-	-	8	8	9.0/10.1/10.2/12.0	8347

316L STAINLESS ST.

PIPE MOUNTING

UNIVERSAL- MANUAL RESET



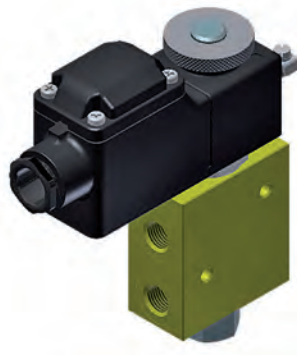
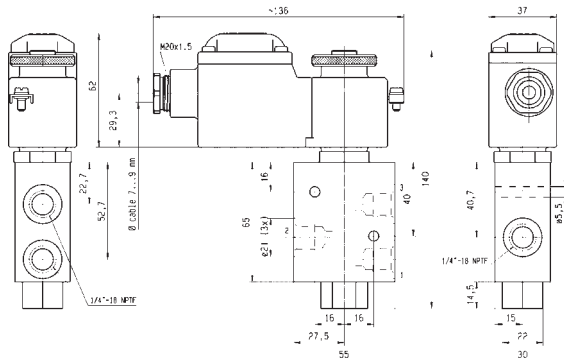
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
1/4" NPT	6	680	0	12	12	-25	65	NBR	U033X5156 ₁	-	492310	1-21	Ex mb II T4 to T5	6	6	10.1/10.2/12.0	7029
	6	680	0	12	12	-25	65	NBR	U033X5156 ₁	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	10.1/10.2/12.0	8168
	6	680	0	12	12	-25	65	NBR	U033X5156 ₁	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	10.1/10.2/12.0	8168
	6	680	0	12	12	-25	65	NBR	U033X5156 ₁	-	496895	-	-	8	8	10.1/10.2/12.0	8168

Notes:

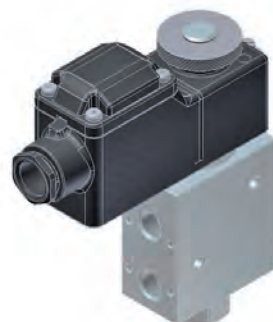
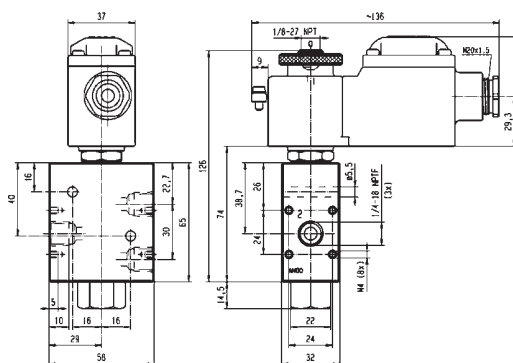
1. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



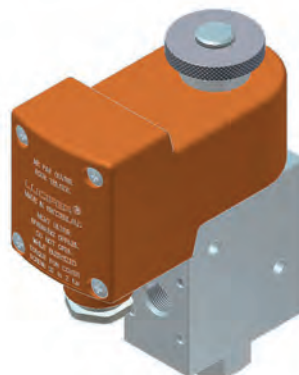
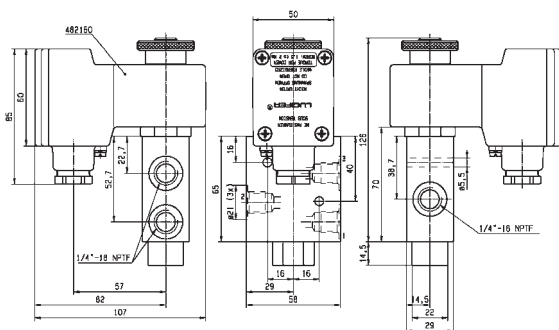
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	680	12	-25	-25
To	1/4"	6	680	12	65	65



Drawing 8347



Drawing 8168



Drawing 7029

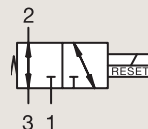
3/2

3 WAY VALVES DIRECT OPERATED

X SERIES MANUAL RESET - BRASS, STAINLESS STEEL VALVES FOR PIPE MOUNTING

316L STAINLESS ST.
PIPE MOUNTING

UNIVERSAL - MANUAL RESET



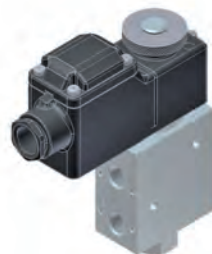
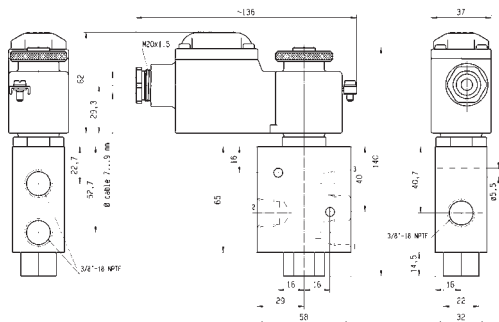
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
1/4" NPTF	6	560	0	-	12	-25	65	NBR	U033X5195	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2/12.0	8348
	6	560	0	12	12	-25	65	NBR	U033X5195	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2/12.0	8348
	6	560	0	12	12	-25	65	NBR	U033X5195	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/12.0	8348
	6	560	0	-	12	-25	65	NBR	U033X5195	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2/12.0	8348
	6	560	0	12	12	-25	65	NBR	U033X5195	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/12.0	8348
	6	560	0	12	12	-25	65	NBR	U033X5195	-	496895	-	-	8	8	9.0/10.1/10.2/12.0	8348
	6	680	0	12	12	-40	65	VMQ	U033X7759	-	496895	-	-	8	8	9.0/10.1/10.2/10.3	8544
	6	680	0	12	12	-40	65	VMQ	U033X7759	-	497105	1-21	Ex db mb IIC T4 to T6	8	8	9.0/10.1/10.2/10.3	8537
	6	680	0	12	12	-40	65	VMQ	U033X7759	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/10.3	8545
	6	680	0	12	12	-40	65	VMQ	U033X7759	-	492310	1-21	Ex mb II T4 to T5	9	8	9.0/10.1/10.2/10.3	8546
3/8" NPTF	6	680	0	-	12	-25	65	NBR	U033X5256	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2/12.0	8349
	6	680	0	12	12	-25	65	NBR	U033X5256	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2/12.0	8349
	6	680	0	12	12	-25	65	NBR	U033X5256	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/12.0	8349
	6	680	0	-	12	-25	65	NBR	U033X5256	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2/12.0	8349
	6	680	0	12	12	-25	65	NBR	U033X5256	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/12.0	8349
	6	680	0	12	12	-25	65	NBR	U033X5256	-	496895	-	-	8	8	9.0/10.1/10.2/12.0	8349

Notes:

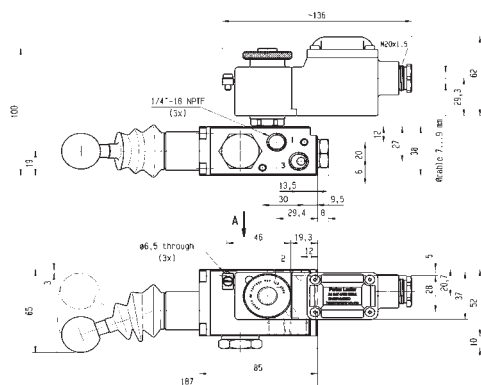
1. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	560	12	-25	-25
To	3/8"	6	680	12	65	65



Drawing 8349

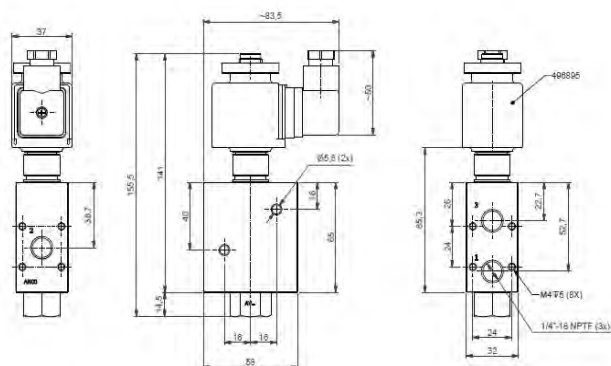


Drawing 8348

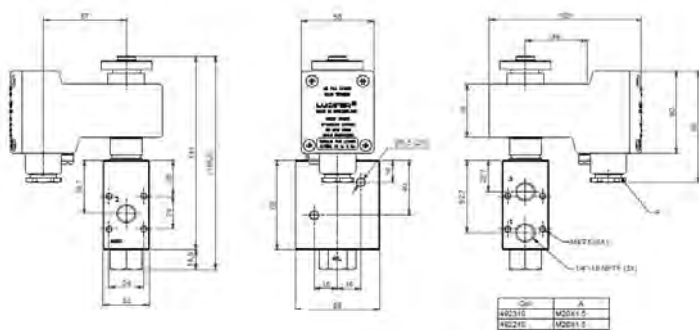
3/2

3 WAY VALVES DIRECT OPERATED

X SERIES MANUAL RESET - BRASS, STAINLESS STEEL VALVES FOR PIPE MOUNTING



Drawing 8544

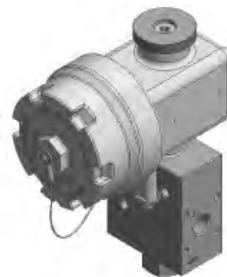
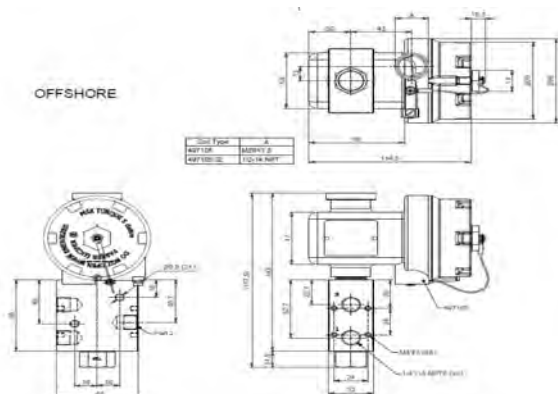


Drawing 8546

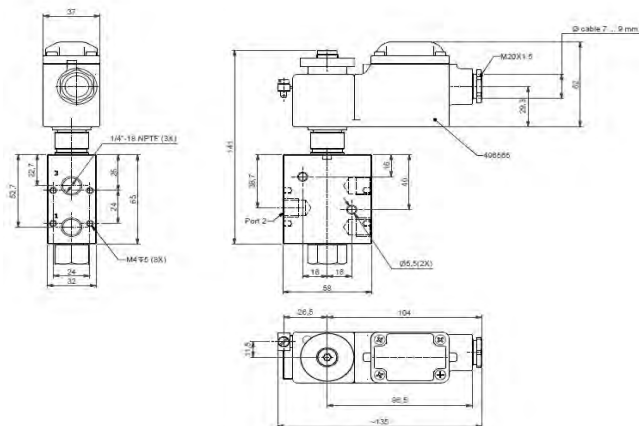


For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	560	12	-25	-25
To	3/8"	6	680	12	65	65

OFFSHORE



Drawing 8537



Drawing 8545





DIRECT OPERATED SOLENOID VALVE

LOW POWER A03 SERIES MANUAL RESET, STAINLESS STEEL VALVES
FOR PIPE MOUNTING

3/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct operated	316L Stainless Steel	Universal	1/4"	5,7	7,5	10	100	120
Manual reset	316L Stainless Steel	Universal	1/4"	5,7	7,5	10	100	120

3/2

3 WAY VALVES DIRECT OPERATED

LOW POWER A03 SERIES MANUAL RESET, STAINLESS STEEL VALVES
FOR PIPE MOUNTING

316L STAINLESS ST.
PIPE MOUNTING

UNIVERSAL



Port size	Orifice Ø	Flow factory KV		Operating Pressure Differential (bar)		Ambient Temp. ⁽¹⁾		Basic part number	Power level	Power (cold)		Dwg. No.
		m³/h	l/min	Min	Max ~/=	Min °C	Max °C			AC W	DC W	
1/4" NPT	5.7	0.45	7.5	0	10	-45	100	A03RN*24**-R	RP	3.6	3.6	1
	5.7	0.45	7.5	0	10	-45	100	A03RN*24**-L	LP	-	1.8	1

Notes:

Please define the complete ordering system in accordance with the desired configuration.
The Numbering system configurator is shown below:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	0	3	R	N	2	4	M	0	-	L	R	D	N	C	2

4 : Body material

R SS, 316L

8,9: Manual operator selection

MN	None manual operator function
MO	Manual operator function
MS	Manual reset function

12,13,14 : Coil type and cable thread

ADM	NPT 1/2	Flameproof-Aluminium, "d" type Ex housing (EN/IEC 60079-31)
ADM	M20X1.5	Flameproof-316 SS, "d" type Ex housing (EN/IEC 60079-31)
RDN	NPT 1/2	Flameproof-316 SS, "d" type Ex housing (EN/IEC 60079-31)
RDM	M20X1.5	Flameproof-316 SS, "d" type Ex housing (EN/IEC 60079-31)

5,6 : Body pipe size

N2	1/4" NPT
G2	1/4" BSP

11: Coil power level

R	Reduce power, 3, 2-3, 6 W
L	Low power, 1.5-1.8 W (1)

7: Ambient temp.

4 -45°C to 100°C

15,16: Coil voltage

C1	12VDC	RP,LP Available
C2	24VDC	RP,LP Available
C4	48VDC	RP,LP Available
C5	110VDC	RP,LP Available
3N	125VDC	RP Available
B1	24 W / 50 Hz	RP Available
B2	24 W / 60 Hz	RP Available
E6	100 V / 50 Hz	RP Available
0A	110-120 V / 50 Hz	RP Available
F2	200 V / 50 Hz	RP Available
3D	220-230 V / 50 Hz	RP Available
K7	110 V / 60 Hz	RP Available
3K	100-120 V / 60 Hz	RP Available
J2	200 V / 60 Hz	RP Available
7J	220-230 V / 60 Hz	RP Available

Notes:

(1). For MS type low power version is not available

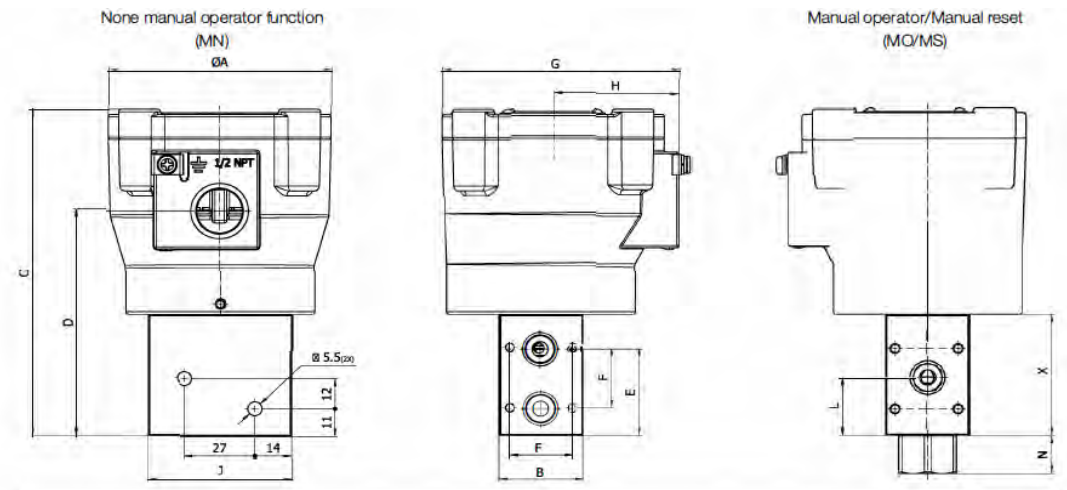
Coil specification	Reduced Power (RP)		Low Power (LP)	
	hot	cold	hot	cold
	3.2 W	3.6 W	1.5 W	1.8 W
Safety code	II2G Ex d IIC Gb T6/T5/T4 II2D Ex t IIIC Db		II2G Ex d IIC Gb T6/T5/T4 II2D Ex t IIIC Db	
Electrical enclosure protection (EN 60529)	IP66/67 , AI/SS		IP66/67 , AI/SS	
Operator ambient temperature range (C)	-60 to + 65/80/110°C		-60 to + 65/80/110°C	

(1) Valve temperature range:

The valve temperature range (TS) is determined by the selected seal material , the temperature range for proper operations of the valve and sometimes by the fluid

(2) Operator ambient temperature range:

The operator ambient temperature range is determined by the selected power level and the safety code.



Drawing 1

Power Level	Coil Type	A	B	C	D	E	F	G	H	J	L	N	X	Weight (Kg)
L	RDN,RDM	85	32	140	100	35	24	90.5	48	55	23	15	58.2	2.85
	ADN,ADM	85	32	140	100	35	24	90.5	48	55	23	15	58.2	1.82
R	RDN,RDM	85	32	130	90	35	24	90.5	48	55	23	15	48.2	2.78
	ADN,ADM	85	32	130	90	35	24	90.5	48	55	23	15	48.2	1.75



3 WAY VALVES DIRECT OPERATED

B04-B14 SERIES - BANJO VALVES



3/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	Anodized Aluminium/Banjo	Normally Closed	1/8"	1.2	50	10	50	124
			1/4"-1/8"	1.2	50	10	50	124

3/2

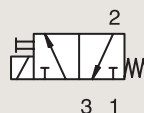
3 WAY VALVES DIRECT OPERATED

B04-B14 SERIES - BANJO VALVES

ANODIZED ALUMINIUM

BANJO

NORMALLY CLOSED



Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"	1.2	50	0	10	10	-10	50	NBR	131B14 ₁₂	-	496131	-	-	3	3	1.2	8227
	1.2	50	0	10	10	-10	50	NBR	131B14 ₁₂	-	496482	-	-	3	3	1.2	8227
	1.2	50	0	10	10	-10	50	NBR	131B14 ₁₂	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8227

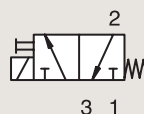
Notes:

1. With manual override
2. Valve only compatible with air and neutral gases

ANODIZED ALUMINIUM

BANJO

NORMALLY CLOSED



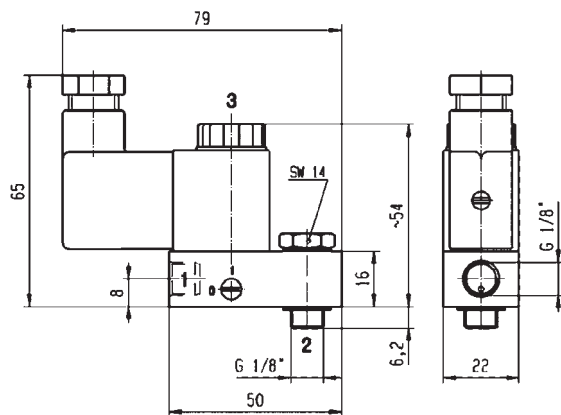
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	1.2	50	0	10	10	-10	50	NBR	131B04 ₁₂	-	496131	-	-	3	3	1.2	8226
	1.2	50	0	10	10	-10	50	NBR	131B04 ₁₂	-	496482	-	-	3	3	1.2	8226
	1.2	50	0	10	10	-10	50	NBR	131B04 ₁₂	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8226

Notes:

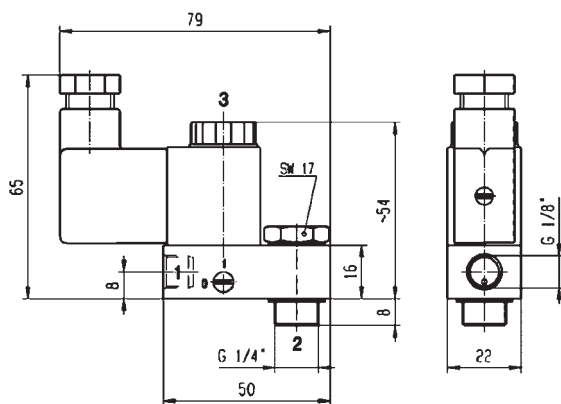
1. With manual override
2. Valve only compatible with air and neutral gases



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"	1.2	50	10	-10	-10
To	1/4"-1/8"	1.2	50	10	50	50



Drawing 8227



Drawing 8226





3 AND 5 WAY VALVES PILOT OPERATED

F SERIES - BRASS AND ALUMINIUM VALVES FOR FLANGE MOUNTING



3/2
5/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Pilot Operated	Brass/Sub-base Mounting	Normally Closed	14 mm	14	2100	13	50	128
	Anodized Aluminium/Sub-base Mounting	Normally Closed	6 mm	6	630	10	75	130
		Control by Electric Impulse	6 mm	6	630	10	75	130

3/2 5/2

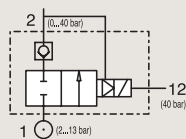
3 AND 5 WAY VALVES PILOT OPERATED

F SERIES - BRASS AND ALUMINIUM VALVES FOR FLANGE MOUNTING

BRASS

SUB-BASE MOUNTING

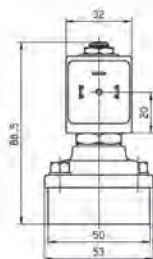
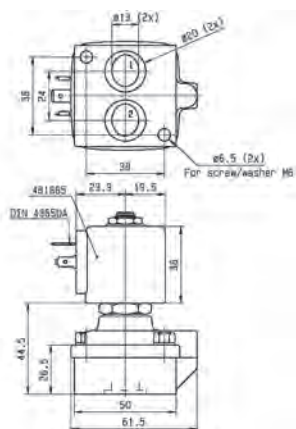
NORMALLY CLOSED



Port size	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min bar	Max(MOPD) AC bar	DC bar	Min °C	Max °C							AC W	DC W		
SB	14	2100	2	13	13	-10	50	PUR	421F35	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3520
	14	2100	2	13	13	-10	50	PUR	421F35	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3520
	14	2100	2	13	13	-10	50	PUR	421F35	2995	481865	-	-	8	9	2.1	3520



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	14 mm	14	2100	13	-10	-10
To	14 mm	14	2100	13	50	50



Drawing 3520

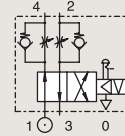
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

F SERIES - BRASS AND ALUMINIUM VALVES FOR FLANGE MOUNTING

ANODIZED ALUMINIUM SUB-BASE MOUNTING

NORMALLY CLOSED



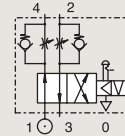
Port size	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
SB	6	630	1	10	10	-10	65	FKM	341F34	-	495905	1-21	Ex db mb IIC T4	8	8	2.0/2.1	3287
	6	630	1	10	10	-10	60	FKM	341F34	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0/2.1	3287
	6	630	1	10	10	-10	75	FKM	341F34	2995	481865	-	-	8	9	2.0/2.1	3287
	6	630	1	10	10	-10	65	FKM	341F3403	-	495905	1-21	Ex db mb IIC T4	8	8	2.0/2.1	3287
	6	630	1	10	10	-10	60	FKM	341F3403	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0/2.1	3287
	6	630	1	10	10	-10	75	FKM	341F3403	2995	481865	-	-	8	9	2.0/2.1	3287
	6	630	1	10	10	-25	65	PUR	341F3440	-	495905	1-21	Ex db mb IIC T4	8	8	2.0/2.1	3287
	6	630	1	10	10	-25	60	PUR	341F3440	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.0/2.1	3287
	6	630	1	10	10	-25	75	PUR	341F3440	2995	481865	-	-	8	9	2.0/2.1	3287

Notes:

1. With flow regulator

ANODIZED ALUMINIUM SUB-BASE MOUNTING

CONTROL BY ELECTRIC IMPULSE



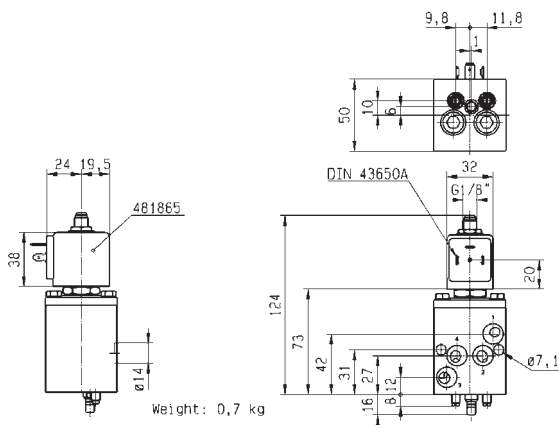
Port size	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
SB	6	630	1	10	-	-10	75	FKM	345F34	4269	484990	-	-	11	-	4.0	3287
	6	630	1	-	10	-10	75	FKM	345F34	4269	485400	-	-	-	13	4.0	3287

Notes:

1. With flow regulator



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	14 mm	14	2100	13	-10	-10
To	14 mm	14	2100	13	50	50



Drawing 3287





3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING



3/2
5/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Pilot Operated	Anodized Aluminium/ Pipe Mounting	Normally Closed	1/4"	6 to 8	1100	40	75	134
			1/2"	14	2500	15	75	134
		Normally Open	1/4"	8	1100	40	75	144
			1/2"	14	2500	15	100	146
		Control by Electric Impulse	1/4"	6 to 8	1100	15	75	148
			1/2"	14	2500	15	75	148

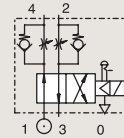
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

NORMALLY CLOSED



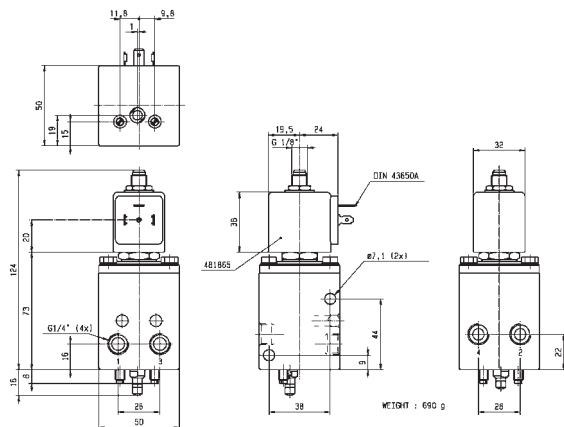
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	AC	DC	Min	Max	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	bar	bar	°C	°C	°C	°C										
1/4"	6	9	0.54	630	1	10	10	-10	65	NBR	341B34 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3286
	6	9	0.54	630	1	10	10	-10	60	NBR	341B34 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3286
	6	9	0.54	630	1	10	10	-10	75	NBR	341B34 ₁₂	2995	481865	-	-	8	9	2.1	3286
	6	9	0.54	630	1	10	10	-10	65	NBR	341B3403 ₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3286
	6	9	0.54	630	1	10	10	-10	60	NBR	341B3403 ₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3286
	6	9	0.54	630	1	10	10	-10	75	NBR	341B3403 ₂	2995	481865	-	-	8	9	2.1	3286
	6	9	0.54	560	1	-	10	-10	55	NBR	341B3490	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	3561
	6	9	0.54	560	1	-	10	-10	65	NBR	341B3490	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	3561
	6	9	0.54	560	1	10	10	-10	65	NBR	341B3490	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	3561

Notes:

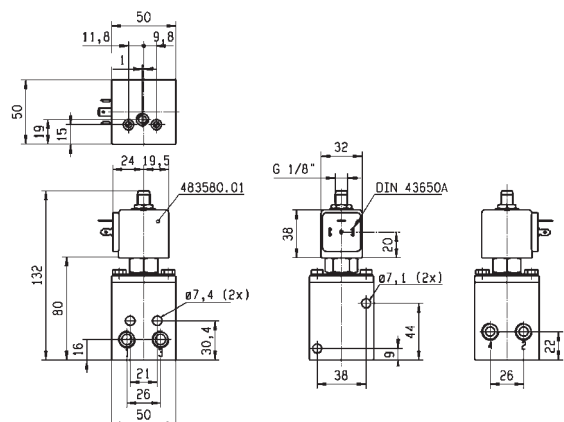
1. With flow regulator
2. With manual override



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	560	10	-10	-10
To	1/4"	6	630	10	75	50



Drawing 3286



Drawing 3561

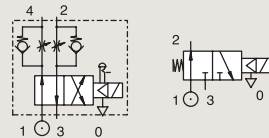
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

NORMALLY CLOSED



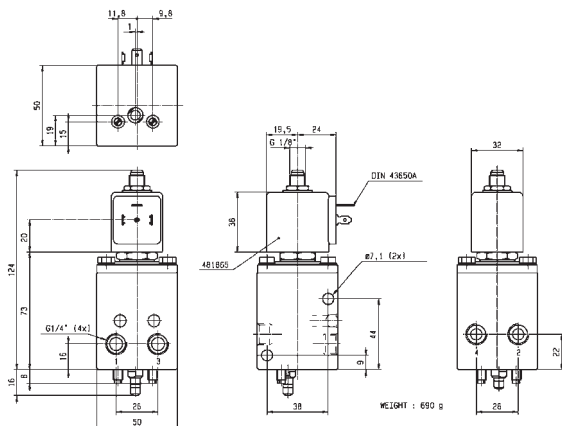
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Min	Max(MOPD)	Min	Max	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	bar	AC bar	DC bar	°C	°C											
1/4"	6	9	0.54	630	1	10	10	-25	65	PUR	341B3440 ₃	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3286
	6	9	0.54	630	1	10	10	-25	60	PUR	341B3440 ₃	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3286
	6	9	0.54	630	1	10	10	-25	75	PUR	341B3440 ₃	2995	481865	-	-	8	9	2.1	3286
	6.5	10	0.60	645	1	-	10	-10	55	NBR	331B7490 ₁	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	8270
	6.5	10	0.60	645	1	-	10	-10	65	NBR	331B7490 ₁	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8270
	6.5	10	0.60	645	1	10	10	-10	65	NBR	331B7490 ₁	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	8270
	6.5	10	0.60	750	1	10	10	-10	65	NBR	E331B74 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3240
	6.5	10	0.60	750	1	10	10	-10	60	NBR	E331B74 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3240
	6.5	10	0.60	750	1	10	10	-10	75	NBR	E331B74 ₁₂	2995	481865	-	-	8	9	2.1	3240

Notes:

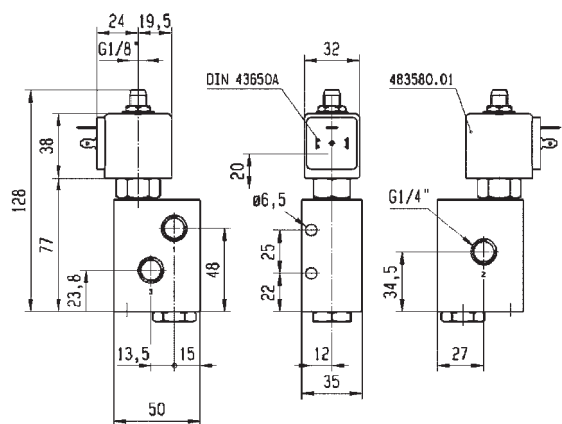
1. Valve only compatible with air and neutral gases
2. With manual override
3. With flow regulator



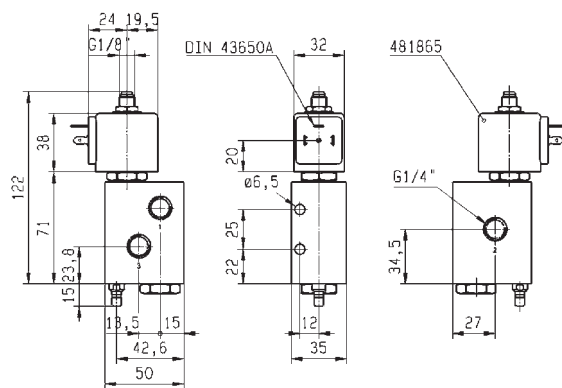
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	630	10	-25	-25
To	1/4"	6.5	750	10	75	50



Drawing 3286



Drawing 8270



Weight: 0,51 kg



Drawing 3240

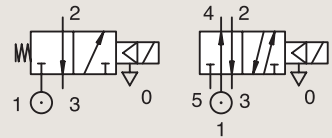
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

NORMALLY CLOSED



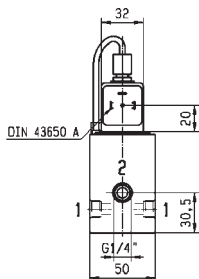
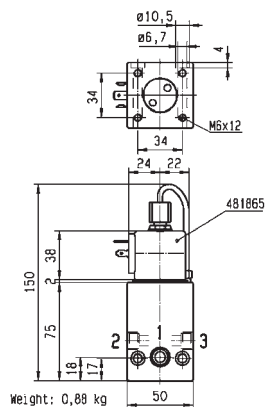
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Min	Max(MOPD)	Min	Max	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	bar	AC bar	DC bar	°C	°C											
1/4"	8	10	0.60	750	1	40	40	-10	65	NBR	331B02 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8114
	8	10	0.60	750	1	40	40	-10	60	NBR	331B02 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8114
	8	10	0.60	750	1	40	40	-10	75	NBR	331B02 ₁	2995	481865	-	-	8	9	2.1	8114
	8	10	0.60	640	1	40	40	-10	65	NBR	341B02 ₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8115
	8	10	0.60	640	1	40	40	-10	60	NBR	341B02 ₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8115
	8	10	0.60	640	1	40	40	-10	75	NBR	341B02 ₂	2995	481865	-	-	8	9	2.1	8115

Notes:

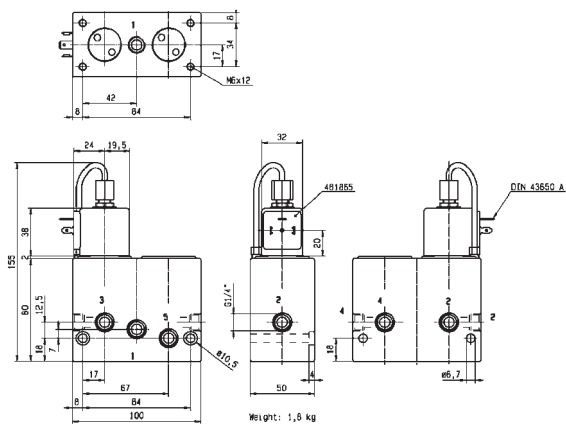
1. Pilot seat discs in Kel-F (PCTFE); valve with pilot return pipe
2. Valve with pilot return pipe on exhaust port



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	8	640	40	-10	-10
To	1/4"	8	750	40	75	50



Drawing 8114



Drawing 8115

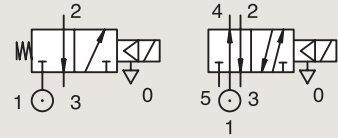
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

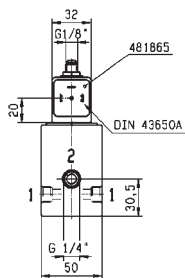
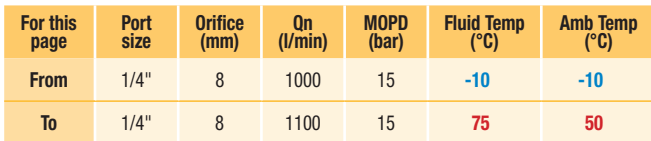
NORMALLY CLOSED



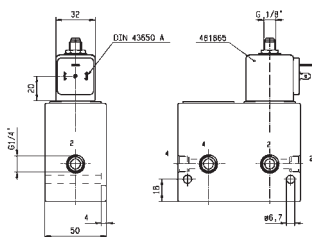
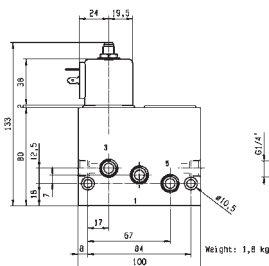
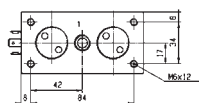
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn	Min	Max(MOPD)	Min	Max	Min	Max							AC W	DC W		
BSP	mm	l/min	m³/h	bar	bar	°C	°C												
1/4"	8	20	1.20	1100	1	15	15	-10	65	FKM	E331B01	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3234
	8	20	1.20	1100	1	15	15	-10	60	FKM	E331B01	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3234
	8	20	1.20	1100	1	15	15	-10	75	FKM	E331B01	2995	481865	-	-	8	9	2.1	3234
	8	16	0.96	1000	1	15	15	-10	65	NBR	E341B01	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3309
	8	16	0.96	1000	1	15	15	-10	60	NBR	E341B01	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3309
	8	16	0.96	1000	1	15	15	-10	75	NBR	E341B01	2995	481865	-	-	8	9	2.1	3309

Notes:

1. Valve only compatible with hydraulic oil and air/neutral gases



Drawing 3234



Drawing 3309



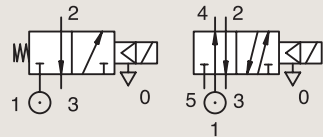
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

NORMALLY CLOSED



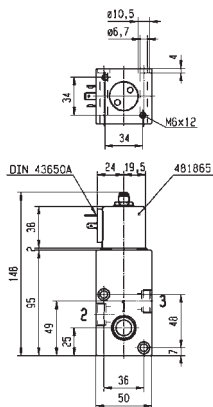
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal				ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn		Min	Max(MOPD)	Min	Max	Valve Ref.		Housing Ref.	Coil Ref.	AC W			DC W			
BSP	mm	l/min	m³/h	bar	AC bar	DC bar	°C	°C											
1/2"	14	-	2500	1	15	15	-10	65	FKM	E331B21	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3238	
	14	-	2500	1	15	15	-10	60	FKM	E331B21	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3238	
	14	-	2500	1	15	15	-10	75	FKM	E331B21	2995	481865	-	-	8	9	2.1	3238	
	14	-	2500	1	15	15	-10	65	NBR	E341B21	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3315	
	14	-	2500	1	15	15	-10	60	NBR	E341B21	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3315	
	14	-	2500	1	15	15	-10	75	NBR	E341B21	2995	481865	-	-	8	9	2.1	3315	

Notes:

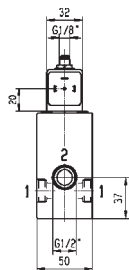
1. Valve only compatible with air and neutral gases



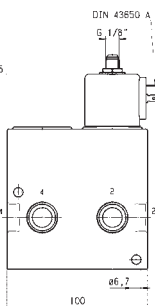
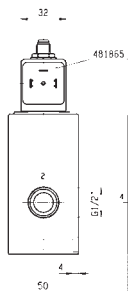
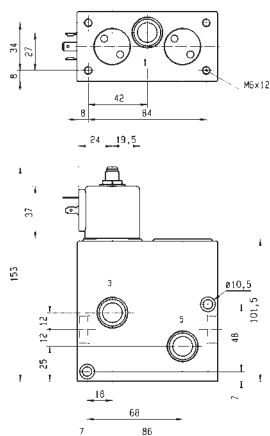
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/2"	14	2500	15	-10	-10
To	1/2"	14	2500	15	75	50



Weight: 0,98 kg



Drawing 3238



Drawing 3315

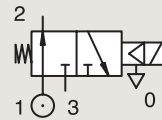
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

NORMALLY OPEN



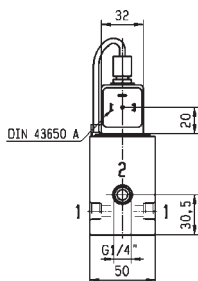
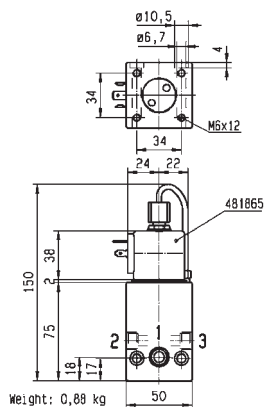
Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal				ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	Qn		Min	Max(MOPD)	Min	Max	Valve Ref.		Housing Ref.	Coil Ref.	AC W			DC W			
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C										
1/4"	8	10	0.60	750	1	40	40	-10	65	NBR	332B02 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8114
	8	10	0.60	750	1	40	40	-10	60	NBR	332B02 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8114
	8	10	0.60	750	1	40	40	-10	75	NBR	332B02 ₁₂	2995	481865	-	-	8	9	2.1	8114
	8	20	1.20	1100	1	15	15	-10	65	FKM	E332B01 ₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3234
	8	20	1.20	1100	1	15	15	-10	60	FKM	E332B01 ₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3234
	8	20	1.20	1100	1	15	15	-10	75	FKM	E332B01 ₂	2995	481865	-	-	8	9	2.1	3234

Notes:

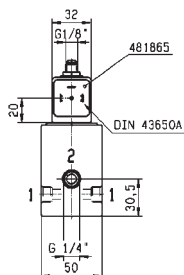
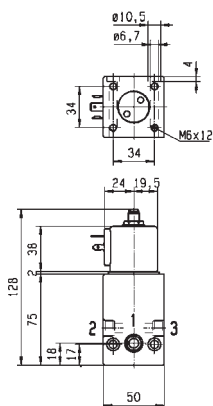
1. Pilot seat discs in Kel-F (PCTFE); valve with pilot return pipe
2. Valve only compatible with hydraulic oil and air/neutral gases



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	8	750	15	-10	-10
To	1/4"	8	1100	40	75	50



Drawing 8114



Drawing 3234

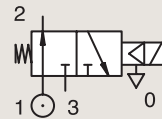
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

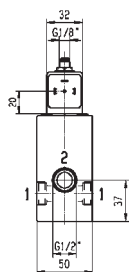
NORMALLY OPEN



Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal				ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv	KV	Qn	Min	Max(MOPD)	Min	Max	Valve Ref.		Housing Ref.	Coil Ref.	AC W			DC W			
BSP	mm	l/min	m³/h	l/min	bar	AC bar	DC bar	°C	°C										
1/2"	14	-	-	2500	1	15	15	-10	65	FKM	E332B21	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3238
	14	-	-	2500	1	15	15	-10	60	FKM	E332B21	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3238
	14	-	-	2500	1	15	15	-10	100	FKM	E332B21	2995	481865	-	-	8	9	2.1	3238

Notes:

1.Valve only compatible with air and neutral gases

50

Drawing 3238

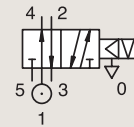
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

B SERIES - ALUMINIUM POPPET VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

CONTROL BY ELECTRIC IMPULSE



Port size	Orifice Ø	Flow factor			Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
		Kv l/min	KV m³/h	Qn l/min	Min bar	Max(MOPD) bar	DC bar	Min °C	Max °C							AC W	DC W		
BSP	mm																		
1/4"	6	9	0.54	630	1	10	-	-10	75	NBR	345B34 ¹²	4269	484990	-	-	11	-	4.0	3286
	6	9	0.54	630	1	-	10	-10	75	NBR	345B34 ¹²	4269	485400	-	-	-	13	4.0	3286
	8	16	0.96	1000	1	15	-	-10	75	NBR	345B04	4269	484990	-	-	11	-	4.0	3309
	8	16	0.96	1000	1	-	15	-10	75	NBR	345B04	4269	485400	-	-	-	13	4.0	3309
1/2"	14	40	2.40	2500	1	15	-	-10	75	NBR	345B24	4269	484990	-	-	11	-	4.0	3315
	14	40	2.40	2500	1	-	15	-10	75	NBR	345B24	4269	485400	-	-	-	13	4.0	3315

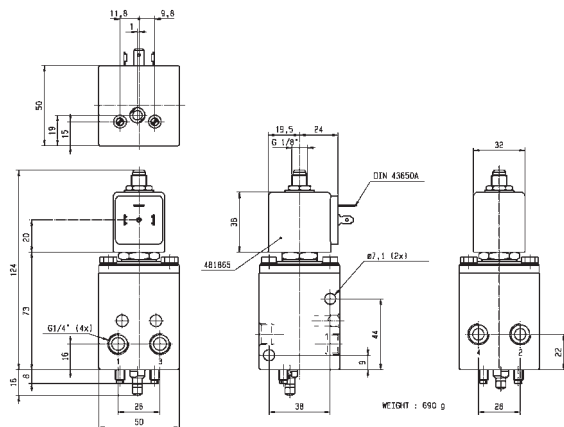
Notes:

1. With flow regulator

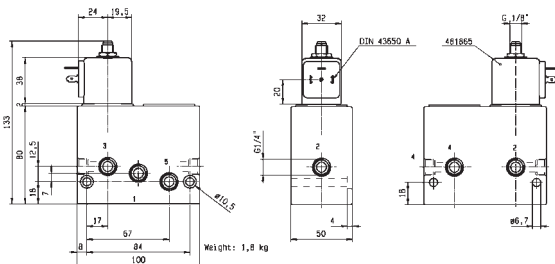
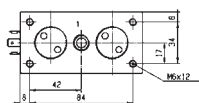
2. Valve only compatible with air and neutral gases



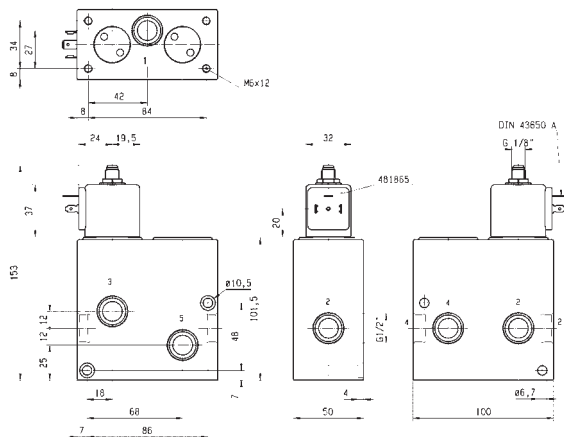
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	630	10	-10	-10
To	1/2"	14	2500	15	75	50



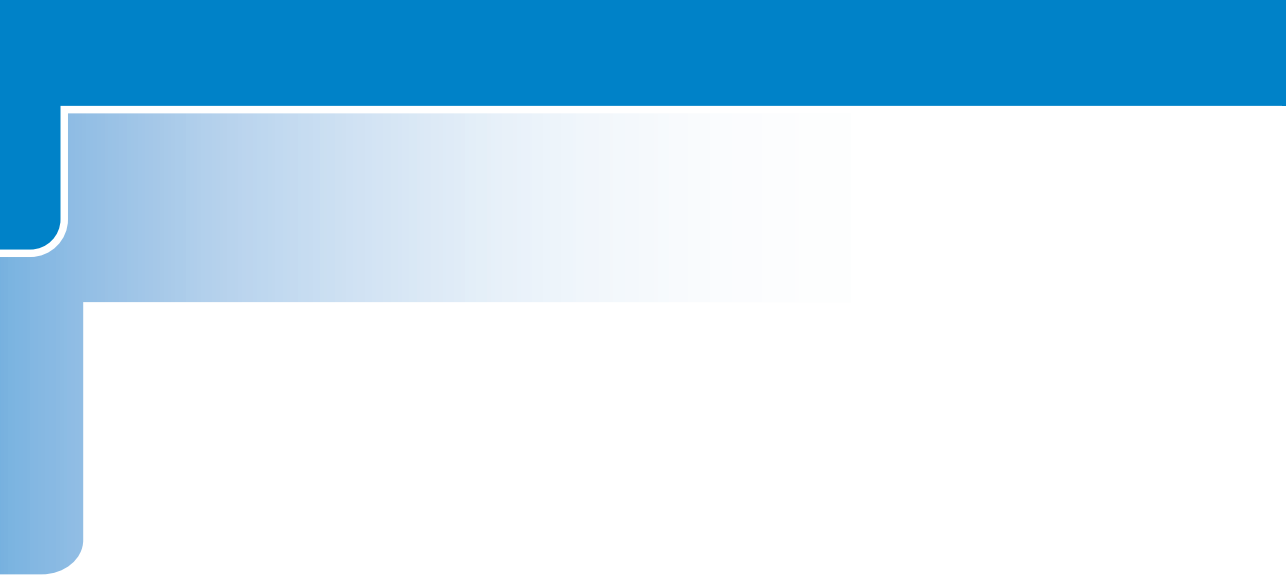
Drawing 3286



Drawing 3309



Drawing 3315





3 AND 5 WAY VALVES PILOT OPERATED

P03-P04 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES FOR PIPE MOUNTING



3/2
5/2

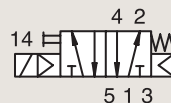
Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Pilot Operated	Anodized Aluminium/Pipe Mounting	Normally Closed	1/4"	7	1250	10	50	152
			1/2"	12	3000	10	50	154
		Dual Solenoids	1/4"	7	1250	10	50	156
			1/2"	12	3000	10	50	158

3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P03-P04 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING



NORMALLY CLOSED

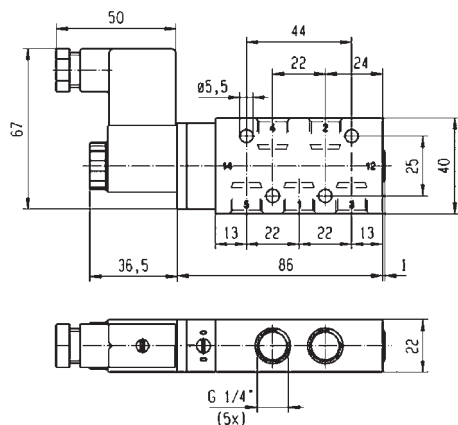
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	2.5	10	10	-20	50	NBR	341P03 ₁	-	496131	-	-	3	3	1.2	8218
	7	1250	2.5	10	10	-20	50	NBR	341P03 ₁	-	496482	-	-	3	3	1.2	8218
	7	1250	2.5	10	10	-20	50	NBR	341P03 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8218
	7	1250	2.5	10	10	-20	50	NBR	341P33 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8219
	7	1250	2.5	10	10	-20	50	NBR	341P33 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8219
	7	1250	2.5	10	10	-20	50	NBR	341P33 ₁₂	2995	481865	-	-	8	9	2.1	8219

Notes:

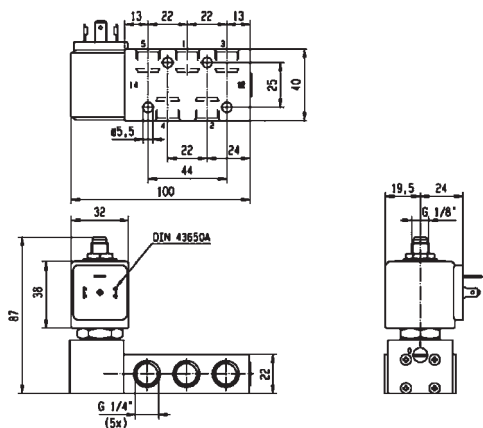
1. With manual override
2. Pilot seat in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1250	10	-20	-20
To	1/4"	7	1250	10	50	50



Drawing 8218



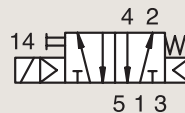
Drawing 8219

3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P03-P04 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING



NORMALLY CLOSED

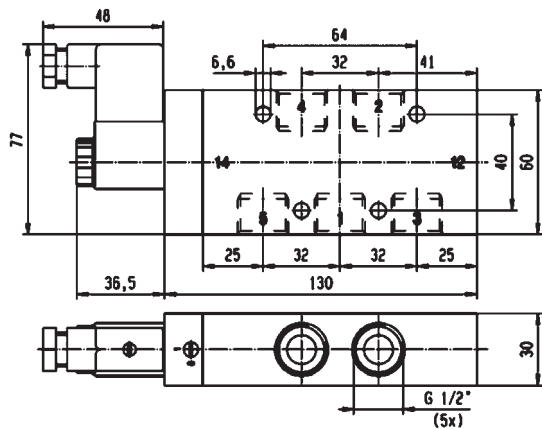
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/2"	12	3000	2.5	10	10	-20	50	NBR	341P04 ₁	-	496131	-	-	3	3	1.2	8220
	12	3000	2.5	10	10	-20	50	NBR	341P04 ₁	-	496482	-	-	3	3	1.2	8220
	12	3000	2.5	10	10	-20	50	NBR	341P04 ₁	-	496637	22	Ex td A22 IP65 - T95°C	3	3	1.2	8220
	12	3000	2.5	10	10	-20	50	NBR	341P34 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8221
	12	3000	2.5	10	10	-20	50	NBR	341P34 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8221
	12	3000	2.5	10	10	-20	50	NBR	341P34 ₁₂	2995	481865	-	-	8	9	2.1	8221

Notes:

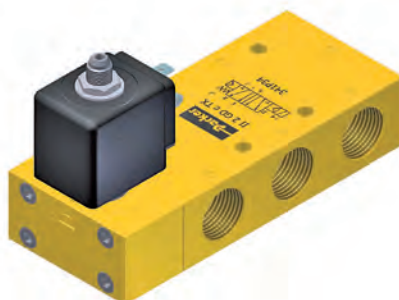
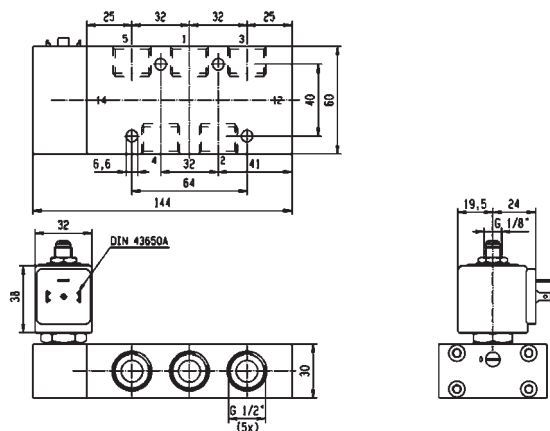
1. With manual override
2. Pilot seat in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/2"	12	3000	10	-20	-20
To	1/2"	12	3000	10	50	50



Drawing 8220



Drawing 8221

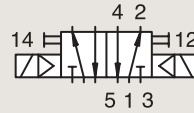
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P03-P04 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

DUAL SOLENOIDS



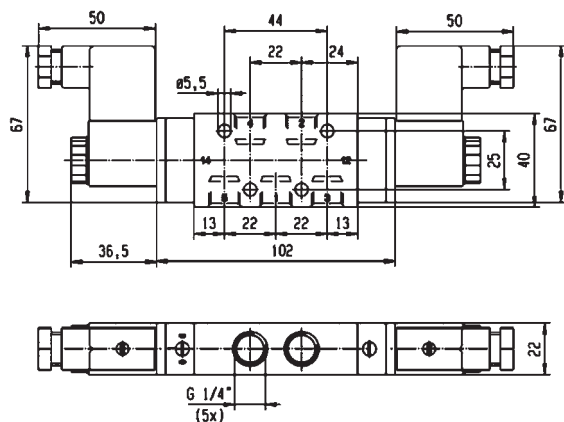
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	AC bar	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	bar	bar	°C	°C										
1/4"	7	1250	2.5	10	10	-20	50	NBR	347P03 ₁	-	496131	-	-	3	3	1.2	8222
	7	1250	2.5	10	10	-20	50	NBR	347P03 ₁	-	496482	-	-	3	3	1.2	8222
	7	1250	2.5	10	10	-20	50	NBR	347P03 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8222
	7	1250	2.5	10	10	-20	50	NBR	347P33 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8223
	7	1250	2.5	10	10	-20	50	NBR	347P33 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8223
	7	1250	2.5	10	10	-20	50	NBR	347P33 ₁₂	2995	481865	-	-	8	9	2.1	8223

Notes:

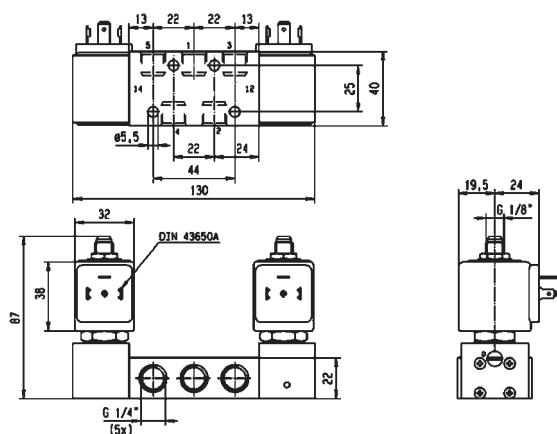
1. With manual override
2. Pilot seat in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1250	10	-20	-20
To	1/4"	7	1250	10	50	50



Drawing 8222



Drawing 8223

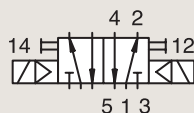
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P03-P04 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

DUAL SOLENOIDS



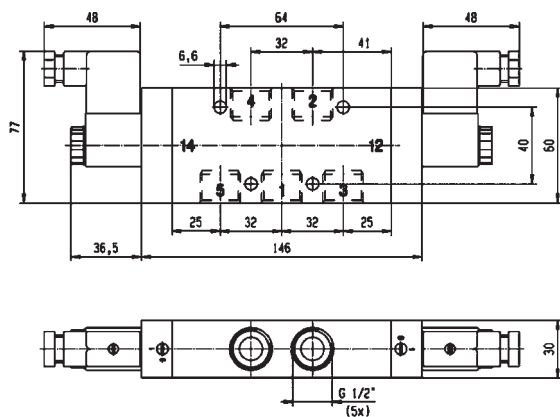
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/2"	12	3000	2.5	10	10	-20	50	NBR	347P04 ₁	-	496131	-	-	3	3	1.2	8224
	12	3000	2.5	10	10	-20	50	NBR	347P04 ₁	-	496482	-	-	3	3	1.2	8224
	12	3000	2.5	10	10	-20	50	NBR	347P04 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8224
	12	3000	2.5	10	10	-20	50	NBR	347P34 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8225
	12	3000	2.5	10	10	-20	50	NBR	347P34 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8225
	12	3000	2.5	10	10	-20	50	NBR	347P34 ₁₂	2995	481865	-	-	8	9	2.1	8225

Notes:

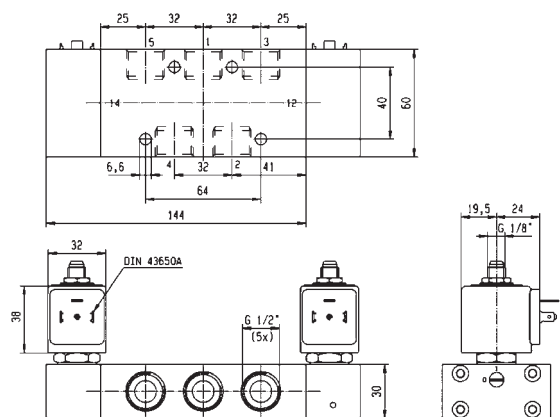
1. With manual override
2. Pilot seat in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/2"	12	3000	10	-20	-20
To	1/2"	12	3000	10	50	50



Drawing 8224



Drawing 8225





3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING



3/2
5/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Pilot Operated	316L Stainless St./Pipe Mounting	Normally Closed	3/8"	8	1400	10	80	162
		Dual Solenoids	3/8"	8	1400	10	80	164
		Air operated - spring return	3/8"	8	1400	10	80	162
	Anodized Aluminium/Pipe Mounting	Normally Closed	1/8"	4 to 15	600	10	80	166
			1/4"	8	1400	10	80	170
		Control by Electric Impulse	1/8"	4	600	10	80	172
		Dual Solenoids	1/8"	4	600	10	80	172
			1/4"	8	1400	10	80	176

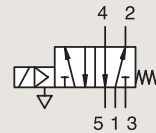
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING

316L STAINLESS ST. PIPE MOUNTING

NORMALLY CLOSED



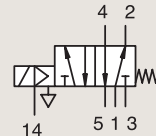
Port size	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential Max(MOPD)			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min bar	AC bar	DC bar	Min °C	Max °C							AC W	DC W		
3/8"-1/4" NPT	8	1400	2	10	10	-25	80	NBR	U341P0250 ₁	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7558
	8	1400	2	10	10	-25	80	NBR	U341P0250 ₁	8993	488980	-	-	2	2.5	1.1	7558
	8	1400	2	10	10	-25	65	NBR	U341P3250 ₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8350
	8	1400	2	10	10	-25	60	NBR	U341P3250 ₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8350
	8	1400	2	10	10	-25	80	NBR	U341P3250 ₂	2995	481865	-	-	8	9	2.1	8350
	8	1400	2	-	10	-25	75	NBR	U341P3295 ₁	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1	8350
	8	1400	2	10	10	-25	65	NBR	U341P3295 ₁	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1	8350
	8	1400	2	10	10	-25	75	NBR	U341P3295 ₁	-	496895	-	-	8	8	9.0/10.1	8350

Notes:

1. With manual override
2. Pilot seat in FKM

316L STAINLESS ST. PIPE MOUNTING

AIR OPERATED - SPRING RETURN - W1



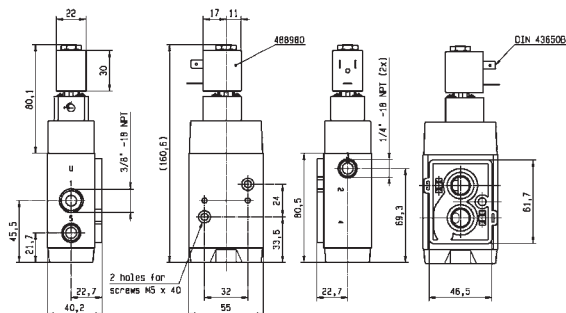
Port size	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min bar	AC bar	DC bar	Min °C	Max °C							AC W	DC W		
3/8"-1/4" NPT	8	1400	2	10	10	-25	65	NBR	U441P3250 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7565
	8	1400	2	10	10	-25	60	NBR	U441P3250 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7565
	8	1400	2	10	10	-25	80	NBR	U441P3250 ₁₂	2995	481865	-	-	8	9	2.1	7565

Notes:

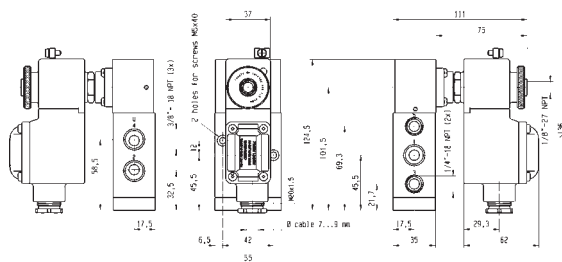
1. Pilot seat in FKM
2. Valve with external pilot pressure minimum 4 bar



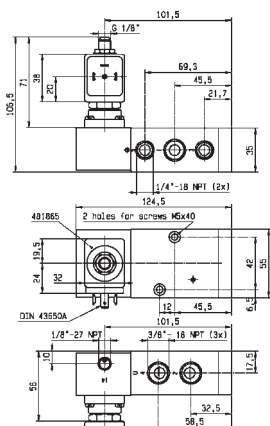
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	3/8"	8	1400	10	-25	-25
To	3/8"	8	1400	10	80	50



Drawing 7558



Drawing 8350



Drawing 7565

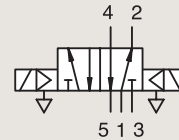
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING

316L STAINLESS ST.
PIPE MOUNTING

DUAL SOLENOIDS



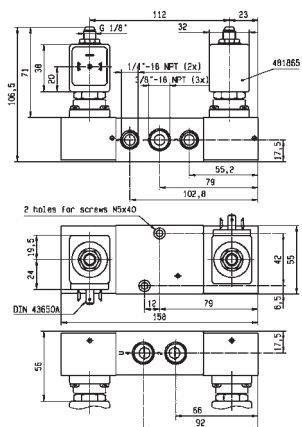
Port size	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
3/8"-1/4" NPT	8	1400	2	10	10	-25	65	NBR	U347P3250 ₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7563
	8	1400	2	10	10	-25	60	NBR	U347P3250 ₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7563
	8	1400	2	10	10	-25	80	NBR	U347P3250 ₂	2995	481865	-	-	8	9	2.1	7563
	8	1400	2	-	10	-25	75	NBR	U347P3295 ₁₂	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2.8351	
	8	1400	2	10	10	-25	75	NBR	U347P3295 ₁₂	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2.7564	
	8	1400	2	10	10	-25	65	NBR	U347P3295 ₁₂	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2.8351	
	8	1400	2	-	10	-25	75	NBR	U347P3295 ₁₂	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2.7564	
	8	1400	2	10	10	-25	65	NBR	U347P3295 ₁₂	-	496560	1-21	Ex db mb IIC T4	8	8	9.0/10.1/10.2.8351	
	8	1400	2	10	10	-25	75	NBR	U347P3295 ₁₂	-	496895	-	-	8	8	9.0/10.1/10.2.8351	

Notes:

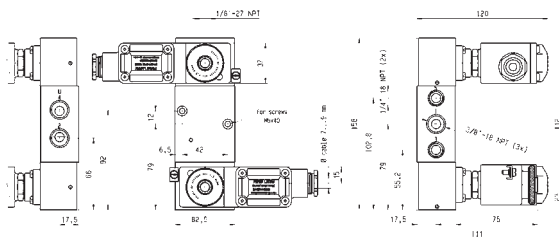
1. With manual override
2. Pilot seat in FKM



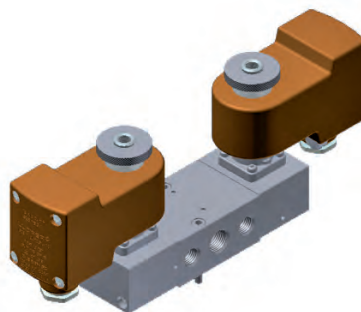
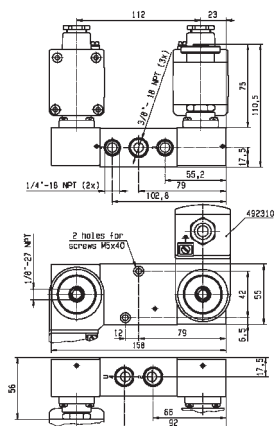
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	3/8"	8	1400	10	-25	-25
To	3/8"	8	1400	10	80	50



Drawing 7563



Drawing 8351



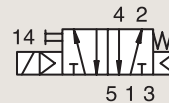
Drawing 7564

3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING



NORMALLY CLOSED

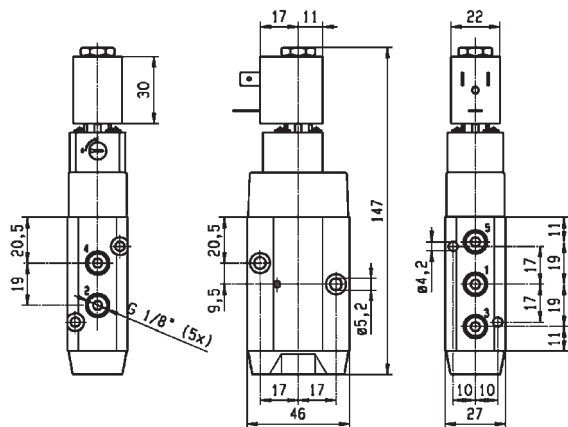
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"	4	600	2	10	10	-25	50	NBR	341P01 ₁₂	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7302
	4	600	2	10	10	-25	80	NBR	341P01 ₁₂	8993	488980	-	-	2	2.5	1.1	7302
	4	600	2	10	10	-25	65	NBR	341P21 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7296
	4	600	2	10	10	-25	60	NBR	341P21 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7296
	4	600	2	10	10	-25	80	NBR	341P21 ₁₂	2995	481865	-	-	8	9	2.1	7296
	4	600	2	10	10	-40	65	NBR	341P2108 ₃	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7296
	4	600	2	10	10	-40	60	NBR	341P2108 ₃	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7296
	4	600	2	10	10	-40	65	NBR	341P2108 ₃	2995	481865	-	-	8	9	2.1	7296

Notes:

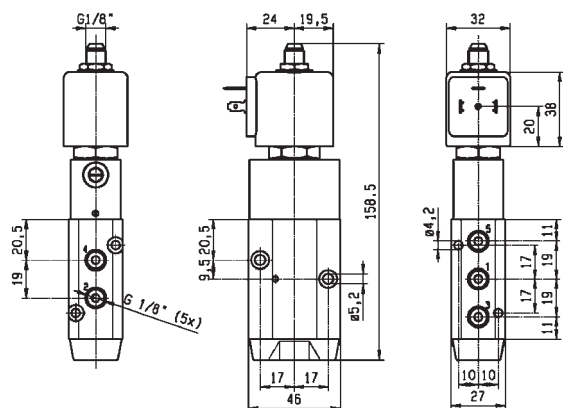
1. With manual override
2. Pilot seat in FKM
3. Pilot seat in PUR



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"	4	600	10	-40	-40
To	1/8"	4	600	10	80	50



Drawing 7302



Drawing 7296

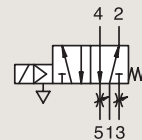
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM
PIPE MOUNTING

NORMALLY CLOSED



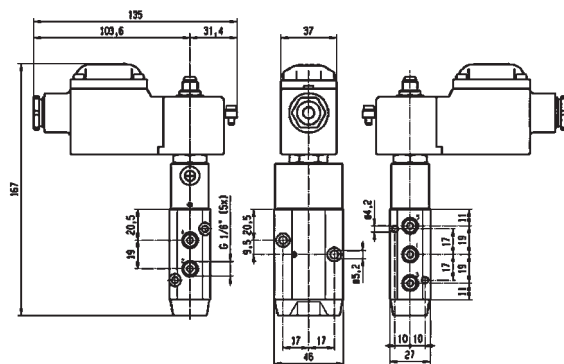
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"	4	600	2	-	10	-20	65	NBR	341P2197 ¹²	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8027
	4	600	2	10	10	-20	65	NBR	341P2197 ¹²	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	8027
	4	600	2	-	10	-20	65	NBR	341P2197 ¹²	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/7.0/8.0	8027
	4	600	2	-	10	-20	65	NBR	341P2197 ¹²	2995	482740	-	-	-	1.6	6.0/7.0/8.0	8027
	4	600	2	-	10	-10	55	NBR	341P2190	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7351
	4	600	2	-	10	-10	65	NBR	341P2190	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7351
	4	600	2	10	10	-10	65	NBR	341P2190	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7351

Notes:

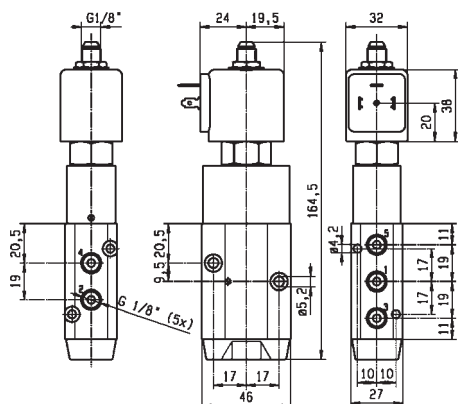
1. With manual override
2. Pilot seat in PUR



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"	4	600	10	-20	-25
To	1/8"	15	600	10	65	65



Drawing 8027



Drawing 7351

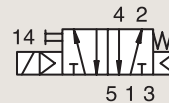
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

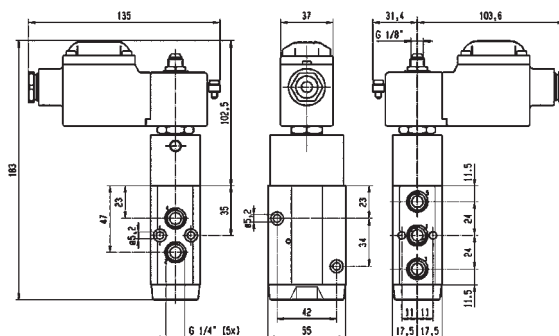
NORMALLY CLOSED



Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	On l/min	bar	AC bar	DC bar	°C	°C										
1/4"	8	1400	2	10	10	-25	50	NBR	341P02 ₁	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7314
	8	1400	2	10	10	-25	80	NBR	341P02 ₁	8993	488980	-	-	2	2.5	1.1	7314
	8	1400	2	10	10	-25	65	NBR	341P22 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8030
	8	1400	2	10	10	-25	60	NBR	341P22 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7319
	8	1400	2	10	10	-25	80	NBR	341P22 ₁₂	2995	481865	-	-	8	9	2.1	7319
	8	1400	2	-	10	-25	55	NBR	341P2290	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7352
	8	1400	2	-	10	-25	65	NBR	341P2290	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7352
	8	1400	2	10	10	-25	65	NBR	341P2290	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7352
	8	1400	2	-	10	-20	65	NBR	341P2297 ₁₃	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8030
	8	1400	2	10	10	-20	65	NBR	341P2297 ₁₃	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8030
	8	1400	2	-	10	-20	65	NBR	341P2297 ₁₃	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	7319
	8	1400	2	-	10	-20	80	NBR	341P2297 ₁₃	2995	482740	-	-	-	1.6	6.0/8.0	7319

Notes:

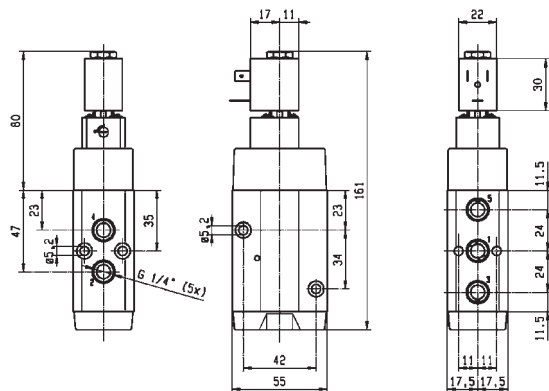
1. With manual override
2. Pilot seat in FKM
3. Pilot seat in PUR



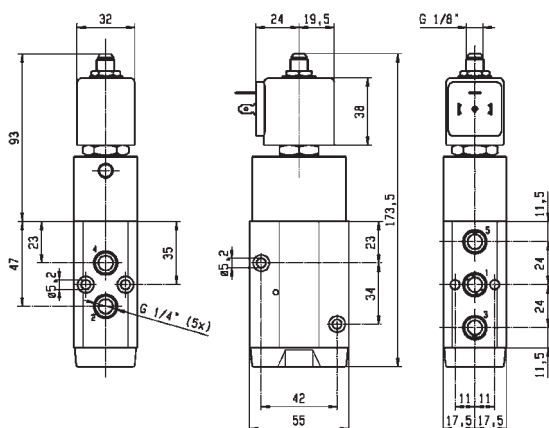
Drawing 8030



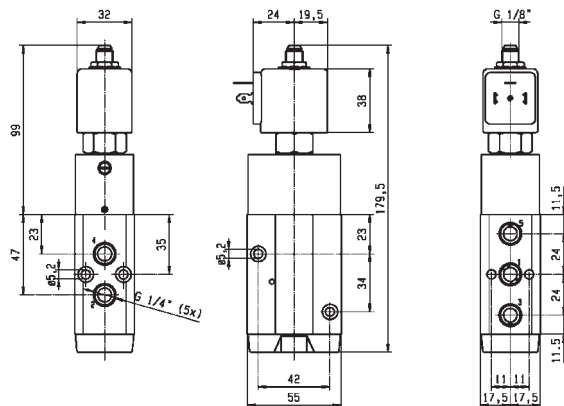
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	8	1400	10	-25	-25
To	1/4"	8	1400	10	80	50



Drawing 7314



Drawing 7319



Drawing 7352

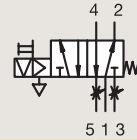
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM PIPE MOUNTING

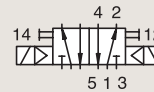
CONTROL BY ELECTRIC IMPULSE



Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"	4	600	2	10	-	-25	80	NBR	345P21	4269	484990	-	-	11	-	4.0	8123
	4	600	2	-	10	-25	80	NBR	345P21	4269	485400	-	-	-	13	4.0	8123

ANODIZED ALUMINIUM PIPE MOUNTING

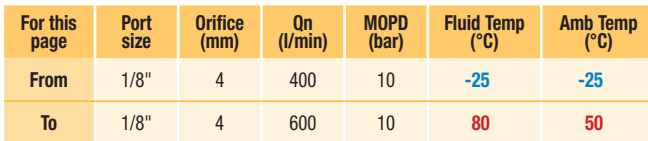
DUAL SOLENOIDS



Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"	4	400	2	10	10	-25	50	NBR	347P01 ₁₂	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7306
	4	400	2	10	10	-25	80	NBR	347P01 ₁₂	8993	488980	-	-	2	2.5	1.1	7306
	4	400	2	10	10	-25	65	NBR	347P21 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7298
	4	400	2	10	10	-25	60	NBR	347P21 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7298
	4	400	2	10	10	-25	80	NBR	347P21 ₁₂	2995	481865	-	-	8	9	2.1	7298

Notes:

1. With manual override
2. Pilot seat in FKM



Drawing 8123



Drawing 7306



Drawing 7298

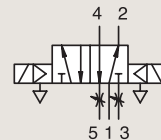
3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM
PIPE MOUNTING

DUAL SOLENOIDS



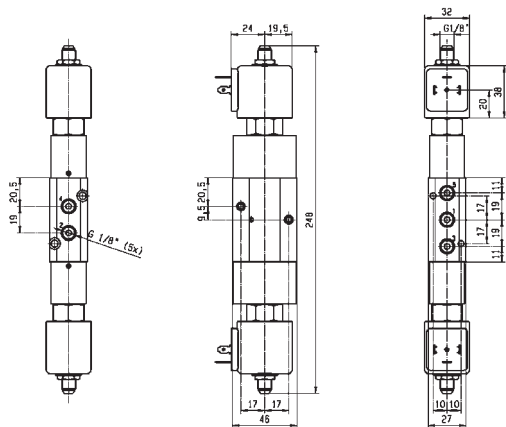
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"	4	400	2	-	10	-25	55	NBR	347P2190 ₂	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7353
	4	400	2	-	10	-25	65	NBR	347P2190 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7353
	4	400	2	10	10	-25	65	NBR	347P2190 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7353
	4	400	2	-	10	-25	65	NBR	347P2197 ₁	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8028
	4	400	2	10	10	-25	65	NBR	347P2197 ₁	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8028
	4	400	2	-	10	-25	65	NBR	347P2197 ₁	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	8028
	4	400	2	-	10	-25	65	NBR	347P2197 ₁	2995	482740	-	-	-	1.6	6.0/8.0	8028

Notes:

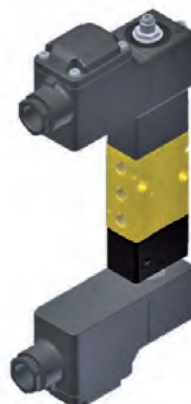
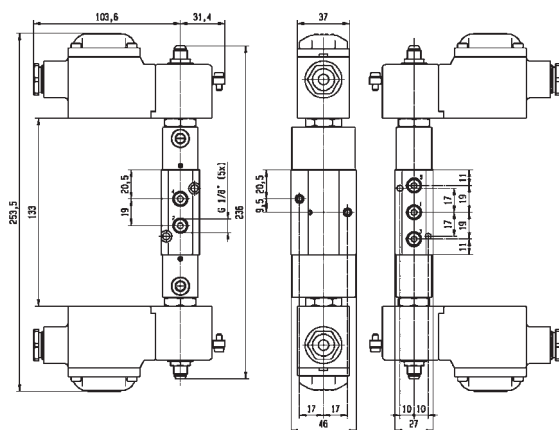
1. With manual override
2. Pilot seat in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"	4	400	10	-25	-25
To	1/8"	4	400	10	65	50



Drawing 7353



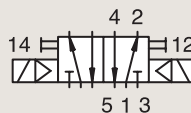
Drawing 8028

3/2 5/2

3 AND 5 WAY VALVES PILOT OPERATED

P01-P02 SERIES - SPOOL VALVES FOR PIPE MOUNTING

ANODIZED ALUMINIUM
PIPE MOUNTING



DUAL SOLENOIDS

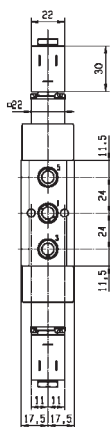
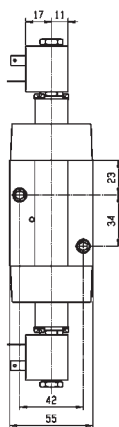
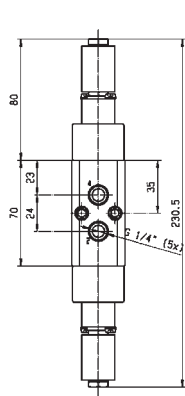
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	AC bar	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar			°C	°C										
1/4"	8	1400	2	10	10	-25	50	NBR	347P02 ₁	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7316
	8	1400	2	10	10	-25	80	NBR	347P02 ₁	8993	488980	-	-	2	2.5	1.1	7316
	8	1400	2	10	10	-25	65	NBR	347P22 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7321
	8	1400	2	10	10	-25	60	NBR	347P22 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7321
	8	1400	2	10	10	-25	80	NBR	347P22 ₁₂	2995	481865	-	-	8	9	2.1	7321

Notes:

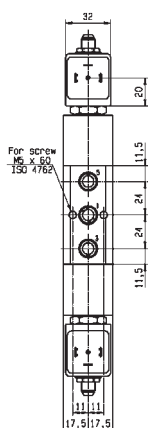
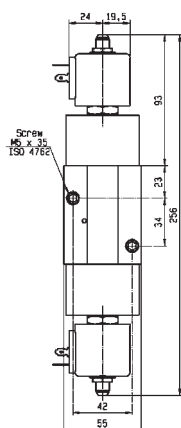
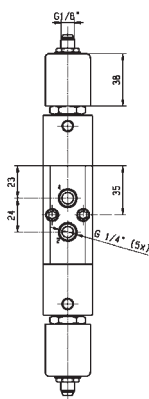
1. With manual override
2. Pilot seat in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	8	1400	10	-25	-25
To	1/4"	8	1400	10	80	50



Drawing 7316



Drawing 7321





3 AND 5 WAY VALVES PILOT OPERATED

U331 SERIES - HIGH FLOW LARGE POPPET VALVES FOR PIPE MOUNTING



3/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Pilot Operated	Brass/Pipe Mounting	Normally Closed	1/2"	14	2500	15	65	180
Pilot Operated	316L/Pipe Mounting	Normally Closed	1/2"	14	2500	15	65	182

3/2

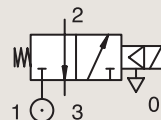
3 AND 5 WAY VALVES PILOT OPERATED

U331BS SERIES - HIGH FLOW BRASS POPPET VALVES FOR PIPE MOUNTING

BRASS

PIPE MOUNTING

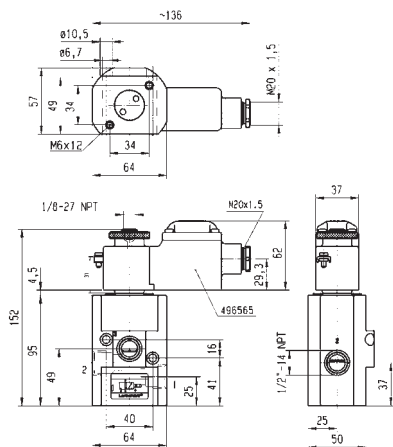
NORMALLY CLOSED



Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC	Min	Max							AC W	DC W		
	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/2" NPTF	14	2500	2	-	15	-30	65	NBR	U331BS9369	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8316
	14	2500	2	15	15	-30	65	NBR	U331BS9369	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8316
	14	2500	2	-	15	-30	65	NBR	U331BS9369	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	8316
	14	2500	2	15	15	-30	65	NBR	U331BS9369	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	8316
	14	2500	2	15	15	-30	65	NBR	U331BS9369	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8316
	14	2500	2	15	15	-30	65	NBR	U331BS9369	-	496895	-	-	8	8	9.0/10.1/10.2	8316



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/2"	14	2500	15	-30	-30
To	1/2"	14	2500	15	65	65



Drawing 8316

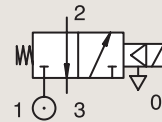
3/2

3 AND 5 WAY VALVES PILOT OPERATED

U331X SERIES - HIGH FLOW BRASS POPPET VALVES FOR PIPE MOUNTING

STAINLESS ST.
PIPE MOUNTING

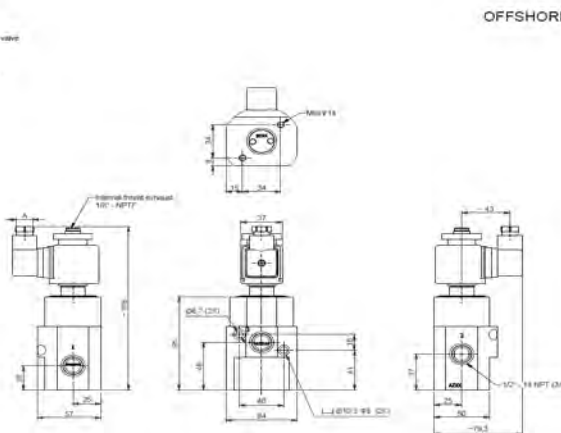
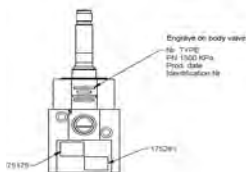
NORMALLY CLOSED



Port size	Orifice Ø	Flow factor	Operating Pressure Differential Max(MOPD)			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	AC bar	DC bar	Min	Max							°C	°C		
	mm	Qn l/min	bar	bar	bar	°C	°C										
1/2" NPT	14	2500	3	-15	15	-30	65	VMQ	U331X2309 ₁	-	496895	-	-	8	8	9.0/10.1/10.2/10.3	8315
	14	2500	3	15	15	-30	65	VMQ	U331X2309 ₁	-	497105	1-21	Ex db IIC T4 to T6	8	8	9.0/10.1/10.2/10.3	8316
	14	2500	3	15	15	-30	65	VMQ	U331X2309 ₁	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/10.3	8359
	14	2500	3	15	15	-30	65	VMQ	U331X2309 ₁	-	492310	1-21	Ex mb II T4 to T5	9	8	9.0/10.1/10.2/10.3	8360
	14	2500	3	15	15	-30	65	VMQ	U331X2309 ₁	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2/10.3	8317
	14	2500	3	15	15	-30	65	VMQ	U331X2309 ₁	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2/10.3	8317

Notes:

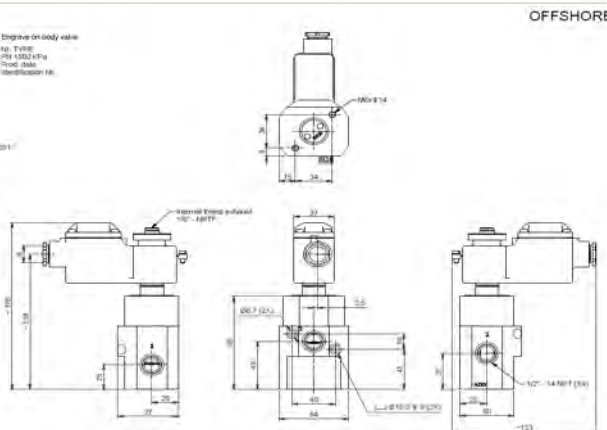
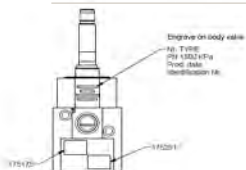
1. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



OFFSHORE



Drawing 8315

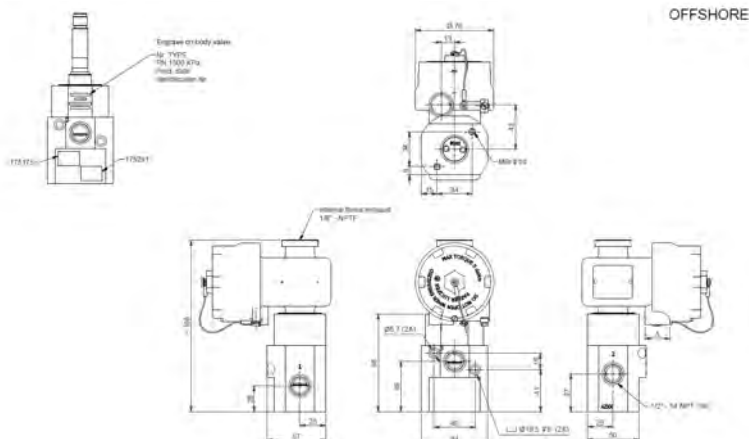


OFFSHORE

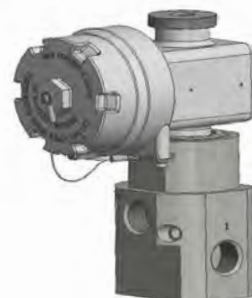


Drawing 8317

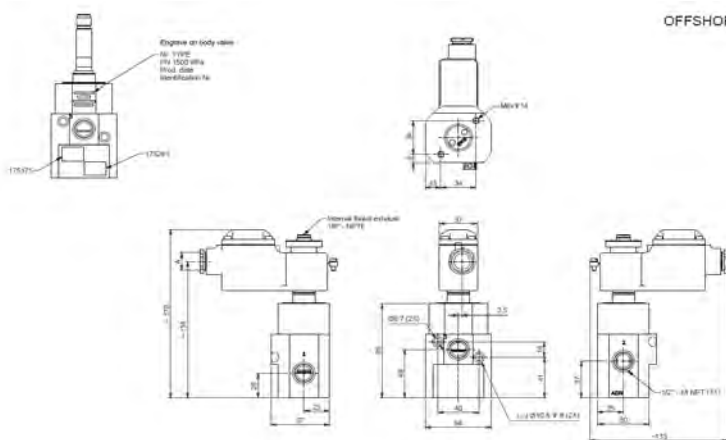
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/2"	14	2500	15	-30	-30
To	1/2"	14	2500	15	65	65



OFFSHORE



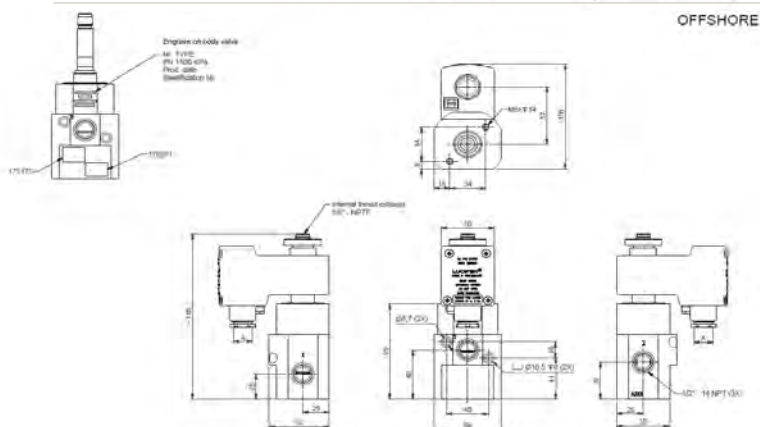
Drawing 8316



OFFSHORE



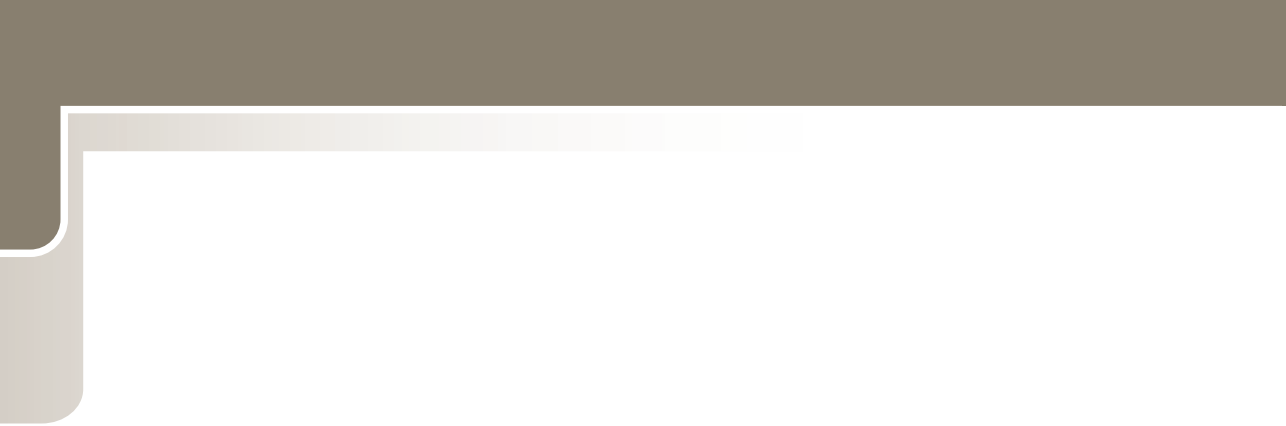
Drawing 8359



OFFSHORE



Drawing 8360





3 AND 5 WAY VALVES NAMUR DIRECT OPERATED

X SERIES - ALUMINIUM, STAINLESS STEEL VALVES WITH NAMUR INTERFACE



3/2
5/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Direct Operated	316L Stainless St./NAMUR	Normally Closed	3/8"	6	680	12	65	186
	Anodized Aluminium/NAMUR	Normally Closed	1/4"	6	680	12	75	188

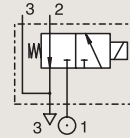
3/2 5/2

3 AND 5 WAY VALVES NAMUR DIRECT OPERATED

X SERIES - ALUMINIUM, STAINLESS STEEL VALVES WITH NAMUR INTERFACE

316L STAINLESS ST.
NAMUR

NORMALLY CLOSED



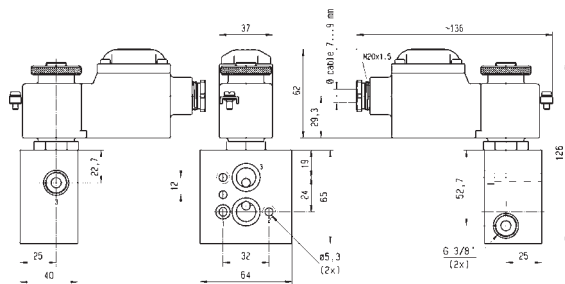
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
3/8" NPT	6	680	0	-	12	-25	65	NBR	U131X1201	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8352
	6	680	0	12	12	-25	65	NBR	U131X1201	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	7668
	6	680	0	12	12	-25	65	NBR	U131X1201	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8352
	6	680	0	-	12	-25	65	NBR	U131X1201	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	7668
	6	680	0	12	12	-25	65	NBR	U131X1201	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8352
	6	680	0	12	12	-25	50	NBR	U131X1201	-	496895	-	-	8	8	9.0/10.1/10.2	7668

Notes:

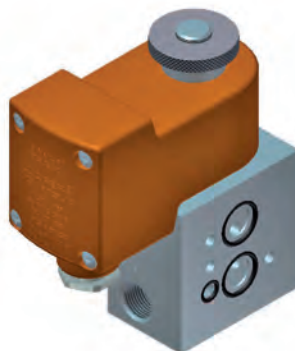
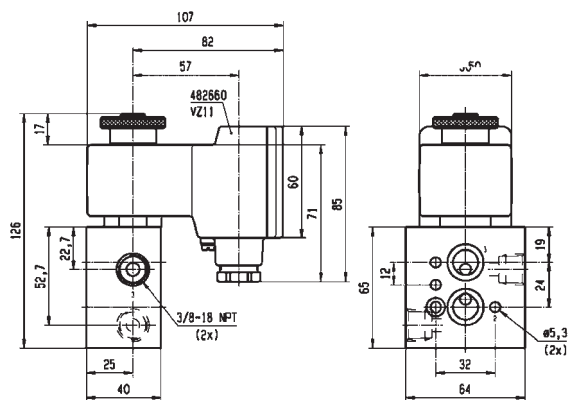
1. Valve delivered with an individual material traceability certificate (3.1 following EN10204)



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	3/8"	6	680	12	-25	-25
To	3/8"	6	680	12	65	65



Drawing 8352



Drawing 7668

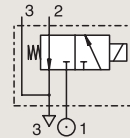
3/2 5/2

3 AND 5 WAY VALVES NAMUR DIRECT OPERATED

X SERIES - ALUMINIUM, STAINLESS STEEL VALVES WITH NAMUR INTERFACE

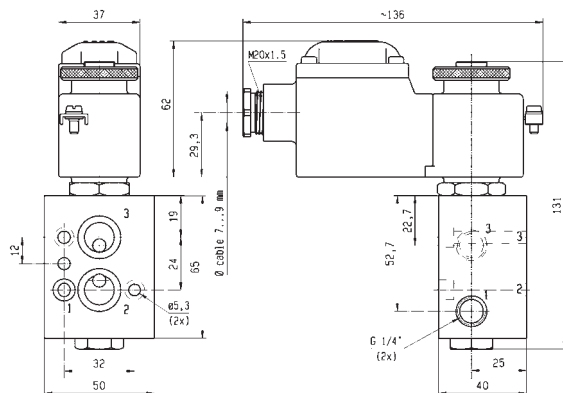
ANODIZED ALUMINIUM NAMUR

NORMALLY CLOSED

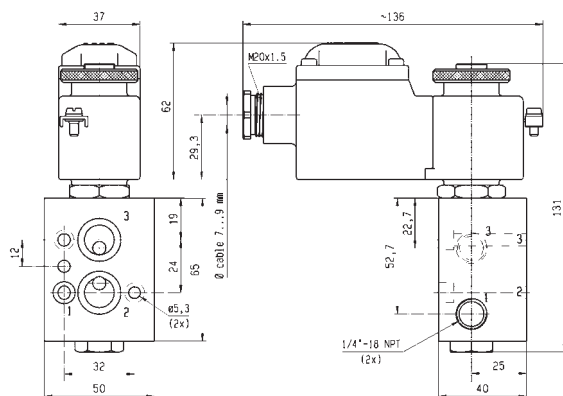


Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max	Max(MOPD)	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	bar	bar	°C	°C										
1/4"	6	680	0	-	12	-25	65	NBR	131X1101	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8346
	6	680	0	12	12	-25	65	NBR	131X1101	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8346
	6	680	0	12	12	-25	75	NBR	131X1101	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	8346
	6	680	0	-	12	-25	75	NBR	131X1101	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	8346
	6	680	0	12	12	-25	65	NBR	131X1101	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8346
	6	680	0	12	12	-25	50	NBR	131X1101	-	496895	-	-	8	8	9.0/10.1/10.2	8346
	6	680	0	-	12	-25	65	NBR	131X1131	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8346
	6	680	0	12	12	-25	65	NBR	131X1131	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8346
	6	680	0	12	12	-25	65	NBR	131X1131	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8346
	6	680	0	12	12	-25	65	NBR	131X1131	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	8346
	6	680	0	-	12	-25	65	NBR	131X1131	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	8346
	6	680	0	12	12	-25	50	NBR	131X1131	-	496895	-	-	8	8	9.0/10.1/10.2	8346
1/4" NPT	6	680	0	-	12	-25	55	NBR	U131X1101	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1/10.2	8353
	6	680	0	12	12	-25	65	NBR	U131X1101	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8353
	6	680	0	12	12	-25	65	NBR	U131X1101	-	496700	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1/10.2	8353
	6	680	0	12	12	-25	65	NBR	U131X1101	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1/10.2	7336
	6	680	0	-	12	-25	65	NBR	U131X1101	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1/10.2	7336
	6	680	0	12	12	-25	50	NBR	U131X1101	-	496895	-	-	8	8	9.0/10.1/10.2	8353

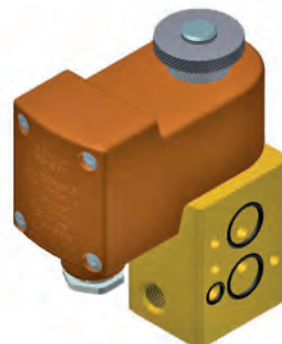
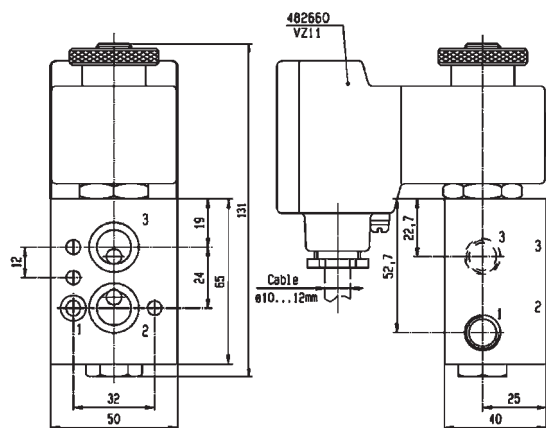
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	6	680	12	-25	-25
To	1/4"	6	680	12	65	65



Drawing 8346



Drawing 8353



Drawing 7336





3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE



3/2
5/2
5/3

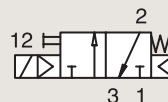
Way	Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
3/2	Pilot Operated	Anodized Aluminium/NAMUR	Solenoid operated - spring return	1/2"	12	3000	10	50	192
				1/4"	7	1250	10	50	192
	Externally Operated	Anodized Aluminium/NAMUR	Air operated - spring return	1/2"	12	3000	10	50	196
				1/4"	7	1250	10	50	196
3/2 - 5/2	Pilot Operated	Anodized Aluminium/NAMUR	Solenoid operated - spring return	1/4"	7	1250	10	50	200
5/2	Pilot Operated	Anodized Aluminium/NAMUR	Solenoid operated - spring return	1/2"	12	3000	10	50	202
				1/4"	7	1250	10	50	202
			Dual Solenoids	1/2"	12	3000	10	50	206
				1/4"	7	1250	10	50	204
	Externally Operated	Anodized Aluminium/NAMUR	Air operated - spring return	1/2"	12	3000	10	50	208
				1/4"	7	1250	10	50	208
			Air operated and return	1/4"	7	1250	10	50	208
5/3	Pilot Operated	Anodized Aluminium/NAMUR	W1 closed center position	1/4"	7	1250	10	50	210
			W3 exhausted in center position	1/4"	7	1250	10	50	212

3/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR



SOLENOID OPERATED - SPRING RETURN

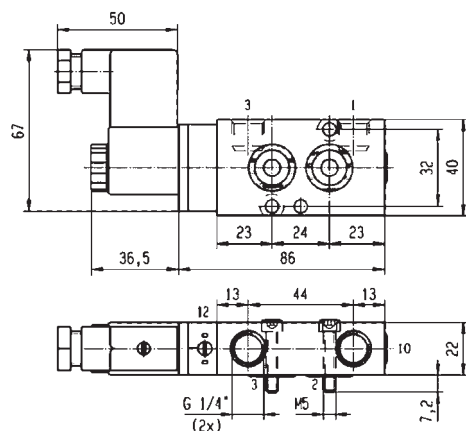
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	2.5	10	10	-20	50	NBR	331N03 ₁	-	496131	-	-	3	3	1.2	8056
	7	1250	2.5	10	10	-20	50	NBR	331N03 ₁	-	496482	-	-	3	3	1.2	8056
	7	1250	2.5	10	10	-20	50	NBR	331N03 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8056
1/2"	12	3000	2	10	10	-20	50	NBR	331N04 ₁	-	496131	-	-	3	3	1.2	8060
	12	3000	2	10	10	-20	50	NBR	331N04 ₁	-	496482	-	-	3	3	1.2	8060
	12	3000	2	10	10	-20	50	NBR	331N04 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8060
	12	3000	2	10	10	-20	50	NBR	331N0402	-	496131	-	-	3	3	1.2	8251
	12	3000	2	10	10	-20	50	NBR	331N0402	-	496482	-	-	3	3	1.2	8251
	12	3000	2	10	10	-20	50	NBR	331N0402	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8251
	12	3000	2	10	10	-20	50	NBR	331N0402	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8251

Notes:

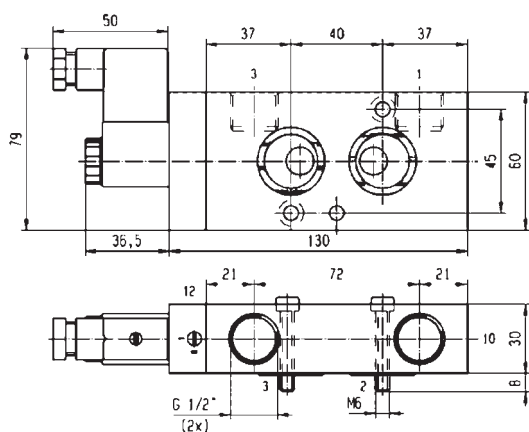
1. With manual override



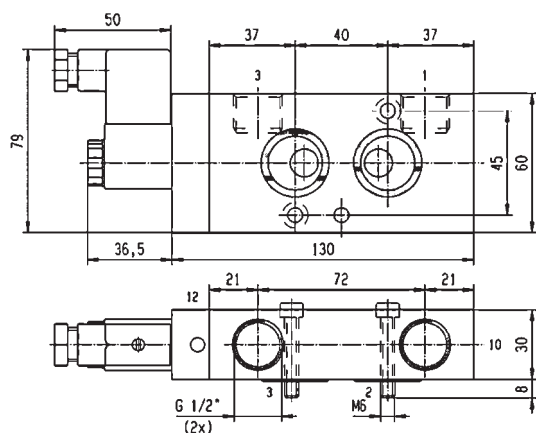
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1250	10	-20	-20
To	1/2"	12	3000	10	50	50



Drawing 8056



Drawing 8060



Drawing 8251

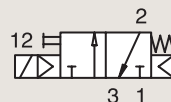
3/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

SOLENOID OPERATED - SPRING RETURN



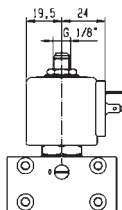
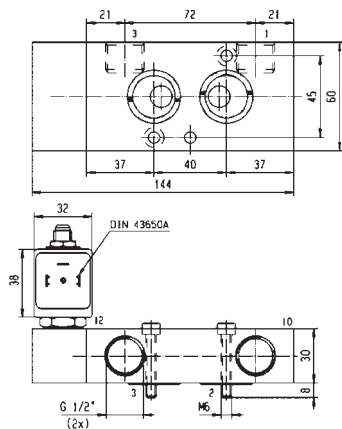
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	Max	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/2"	12	3000	2.5	10	10	-20	50	NBR	331N34 ¹²	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8210
	12	3000	2.5	10	10	-20	50	NBR	331N34 ¹²	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8210
	12	3000	2.5	10	10	-20	50	NBR	331N34 ¹²	2995	481865	-	-	8	9	2.1	8210
	12	3000	2.5	10	10	-20	50	NBR	331N3402	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8252
	12	3000	2.5	10	10	-20	50	NBR	331N3402	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8252
	12	3000	2.5	10	10	-20	50	NBR	331N3402	2995	481865	-	-	8	9	2.1	8252

Notes:

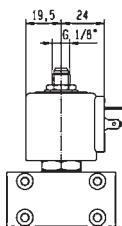
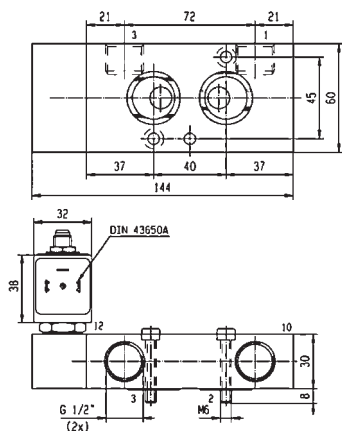
1. With manual override
2. Pilot seat in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/2"	12	3000	10	-20	-20
To	1/2"	12	3000	10	65	50



Drawing 8210



Drawing 8252

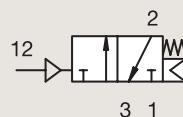
3/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

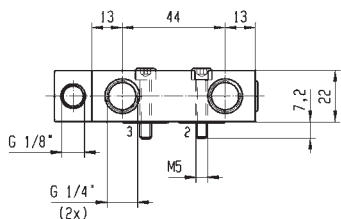
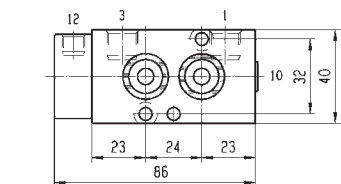
AIR OPERATED - SPRING RETURN



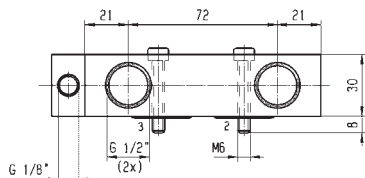
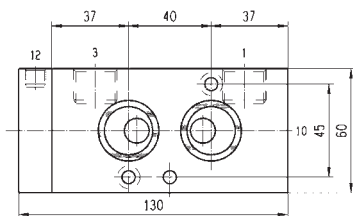
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	bar	°C	°C										
1/4"	7	1250	2.5	10	10	-20	50	NBR	531N03	-	-	-	-	-	-	-	8058
1/2"	12	3000	2.5	10	10	-20	50	NBR	531N04	-	-	-	-	-	-	-	8061



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1250	10	-20	-20
To	1/2"	12	3000	10	50	50



Drawing 8058



Drawing 8061

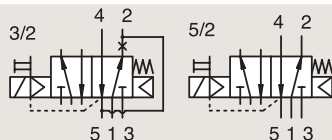
3/2 5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM NAMUR

SOLENOID OPERATED - SPRING RETURN



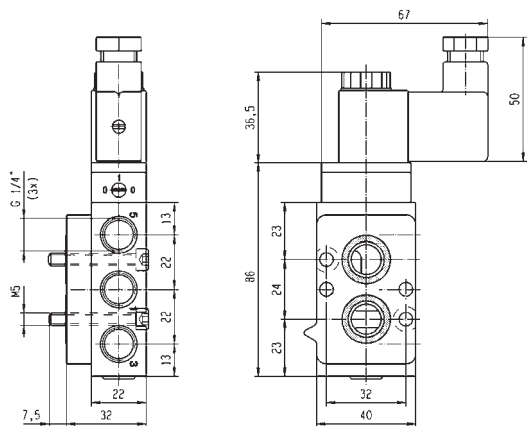
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	Max	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	2.5	10	10	-20	50	NBR	341N05 ₁₂	-	496131	-	-	3	3	1.2	8162
	7	1250	2.5	10	10	-20	50	NBR	341N05 ₁₂	-	496482	-	-	3	3	1.2	8162
	7	1250	2.5	10	10	-20	50	NBR	341N05 ₁₂	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8162
	7	1200	2.5	10	10	-20	50	NBR	341N0502 ₂	-	496131	-	-	3	3	1.2	8253
	7	1200	2.5	10	10	-20	50	NBR	341N0502 ₂	-	496482	-	-	3	3	1.2	8253
	7	1200	2.5	10	10	-20	50	NBR	341N0502 ₂	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8253

Notes:

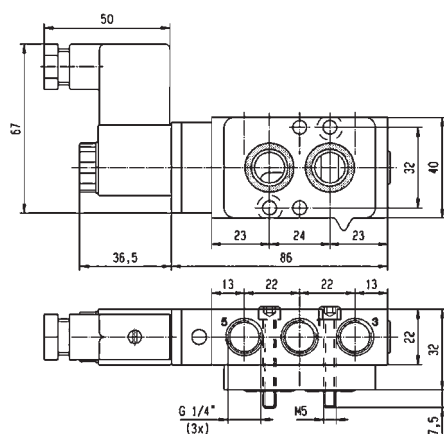
1. With manual override
2. Valve delivered with the 3/2 - 5/2 conversion plate



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1200	10	-20	-20
To	1/4"	7	1250	10	50	50



Drawing 8162



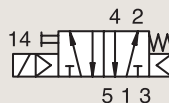
Drawing 8253

3/2 5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR



SOLENOID OPERATED - SPRING RETURN

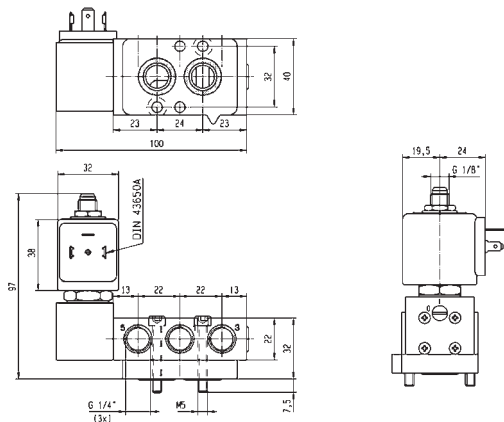
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	Max	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1200	2.5	10	10	-20	50	NBR	341N35 ¹²³	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8213
	7	1200	2.5	10	10	-20	50	NBR	341N35 ¹²³	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8213
	7	1200	2.5	10	10	-20	50	NBR	341N35 ¹²³	2995	481865	-	-	8	9	2.1	8213
	7	1200	2.5	10	10	-20	50	NBR	341N3502 ²³	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8254
	7	1200	2.5	10	10	-20	50	NBR	341N3502 ²³	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8254
	7	1200	2.5	10	10	-20	50	NBR	341N3502 ²³	2995	481865	-	-	8	9	2.1	8254
	7	1200	2	-	10	-20	50	NBR	341N3590 ³	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	8.0	8254
	7	1200	2	-	10	-20	50	NBR	341N3590 ³	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	8.0	8254
	7	1200	2	10	10	-20	50	NBR	341N3590 ³	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	8.0	8254

Notes:

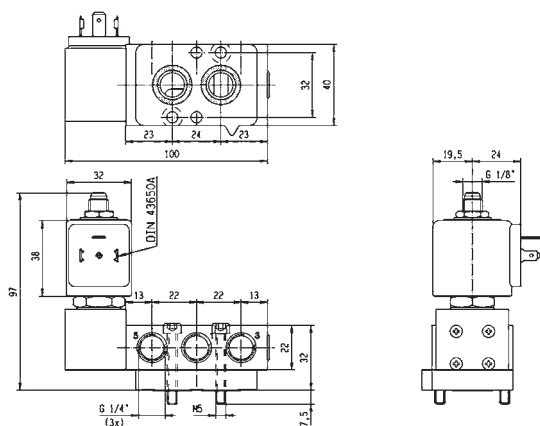
1. With manual override
2. Pilot seat in FKM
3. Valve delivered with the 3/2 - 5/2 conversion plate



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1200	10	-20	-20
To	1/4"	7	1200	10	50	50



Drawing 8213



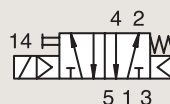
Drawing 8254

5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR



SOLENOID OPERATED - SPRING RETURN

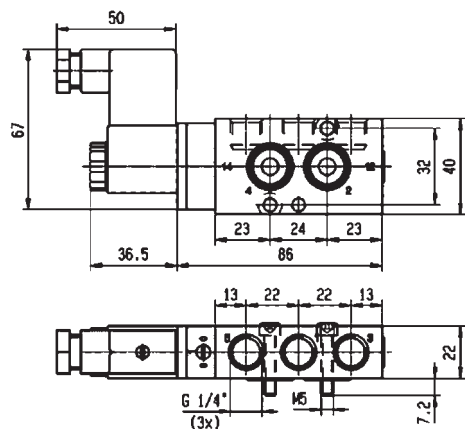
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	2.5	10	10	-20	50	NBR	341N03 ₁	-	496131	-	-	3	3	1.2	8063
	7	1250	2.5	10	10	-20	50	NBR	341N03 ₁	-	496482	-	-	3	3	1.2	8063
	7	1250	2.5	10	10	-20	50	NBR	341N03 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8063
1/2"	12	3000	2	10	10	-20	50	NBR	341N04 ₁	-	496131	-	-	3	3	1.2	8065
	12	3000	2	10	10	-20	50	NBR	341N04 ₁	-	496482	-	-	3	3	1.2	8065
	12	3000	2	10	10	-20	50	NBR	341N04	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8065
	12	3000	2.5	10	10	-20	50	NBR	341N34 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8211
	12	3000	2.5	10	10	-20	50	NBR	341N34 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8211
	12	3000	2.5	10	10	-20	50	NBR	341N34 ₁₂	2995	481865	-	-	8	9	2.1	8211
	12	3000	2.5	10	10	-20	50	NBR	341N34 ₁₂	2995	481865	-	-	8	9	2.1	8211

Notes:

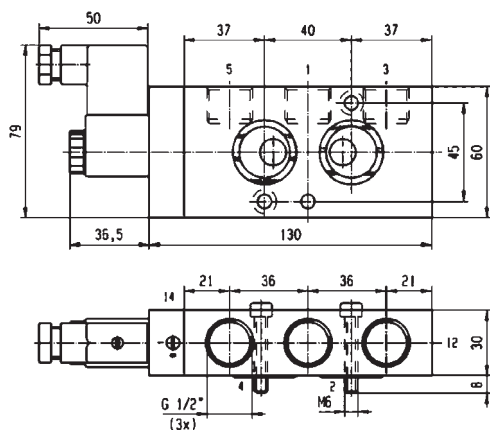
1. With manual override
2. Pilot with FKM seal



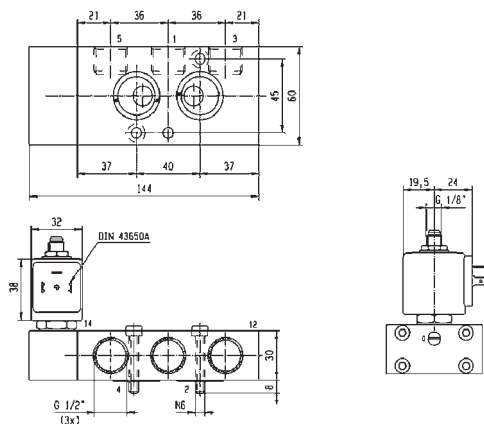
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1250	10	-20	-20
To	1/2"	12	3000	10	50	50



Drawing 8063



Drawing 8065



Drawing 8211

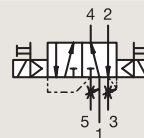
5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

DUAL SOLENOIDS



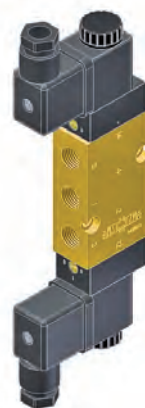
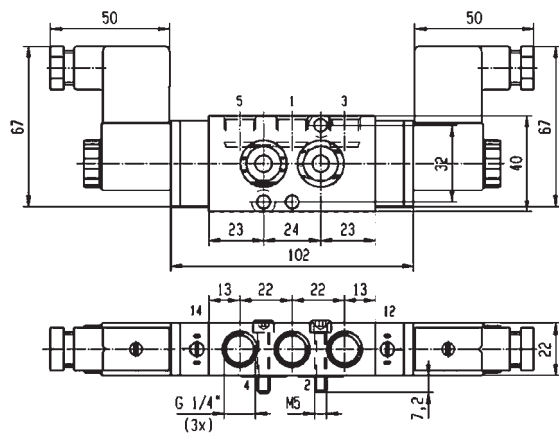
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	1.5	10	10	-20	50	NBR	347N03 ₁	-	496131	-	-	3	3	1.2	8057
	7	1250	1.5	10	10	-20	50	NBR	347N03 ₁	-	496482	-	-	3	3	1.2	8057
	7	1250	1.5	10	10	-20	50	NBR	347N03 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8057
	7	1250	2.5	10	10	-20	50	NBR	347N33 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8209
	7	1250	2.5	10	10	-20	50	NBR	347N33 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8209
	7	1250	2.5	10	10	-20	50	NBR	347N33 ₁₂	2995	481865	-	-	8	9	2.1	8209

Notes:

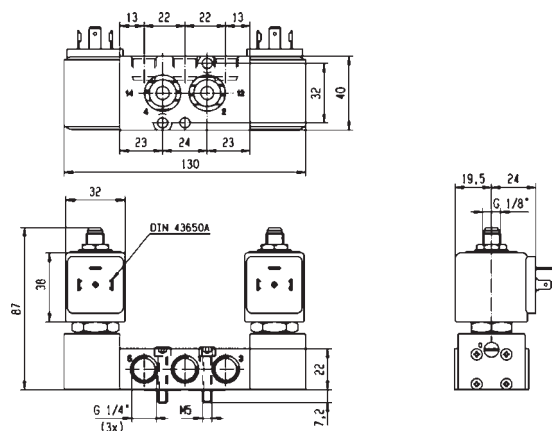
1. With manual override
2. Pilot seat in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1250	10	-20	-20
To	1/4"	7	1250	10	50	50



Drawing 8057



Drawing 8209

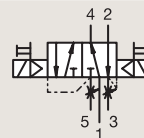
5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

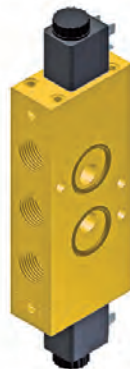
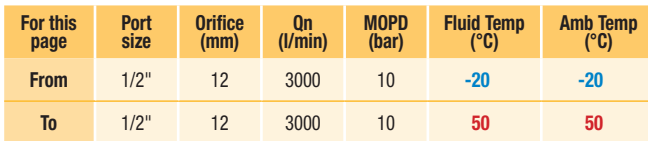
DUAL SOLENOIDS



Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	Max	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/2"	12	3000	2	10	10	-20	50	NBR	347N04 ₁	-	496131	-	-	3	3	1.2	8154
	12	3000	2	10	10	-20	50	NBR	347N04 ₁	-	496482	-	-	3	3	1.2	8154
	12	3000	2	10	10	-20	50	NBR	347N04 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8154
	12	3000	2.5	10	10	-20	50	NBR	347N34 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8212
	12	3000	2.5	10	10	-20	50	NBR	347N34 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8212
	12	3000	2.5	10	10	-20	50	NBR	347N34 ₁₂	2995	481865	-	-	8	9	2.1	8212

Notes:

1. With manual override
2. Pilot seat in FKM



Drawing 8154



Drawing 8212

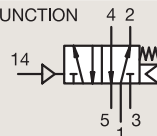
5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM NAMUR

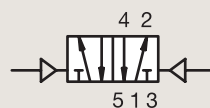
5/2 FUNCTION



AIR OPERATED - SPRING RETURN

Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	2.5	10	10	-20	50	NBR	541N03	-	-	-	-	-	-	-	8064
1/2"	12	3000	2.5	10	10	-20	50	NBR	541N04	-	-	-	-	-	-	-	8066

ANODIZED ALUMINIUM NAMUR

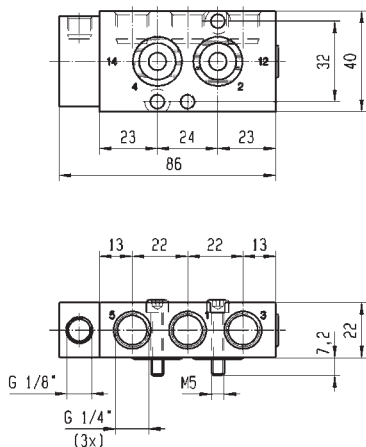


AIR OPERATED AND RETURN

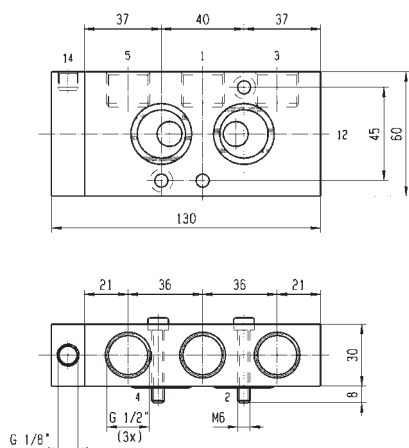
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	1.5	10	10	-20	50	NBR	547N03	-	-	-	-	-	-	-	8059



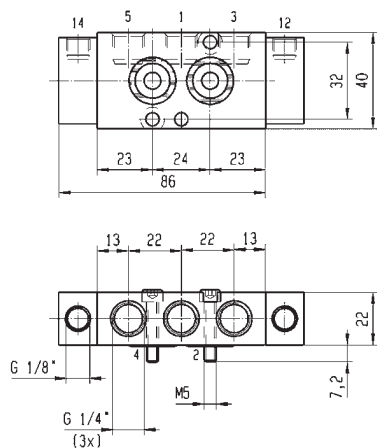
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1250	10	-20	-20
To	1/2"	12	3000	10	50	50



Drawing 8064



Drawing 8066



Drawing 8059

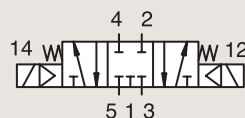
5/3

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM NAMUR

W1 CLOSED CENTER POSITION



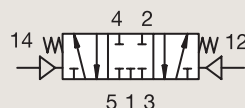
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	3	10	10	-20	50	NBR	342N03 ₁	-	496131	-	-	3	3	1.2	8057
	7	1250	3	10	10	-20	50	NBR	342N03 ₁	-	496482	-	-	3	3	1.2	8057
	7	1250	3	10	10	-20	50	NBR	342N03 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8057
	7	1250	2.5	10	10	-20	50	NBR	342N33 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	8209
	7	1250	2.5	10	10	-20	50	NBR	342N33 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	8209
	7	1250	2.5	10	10	-20	50	NBR	342N33 ₁₂	2995	481865	-	-	8	9	2.1	8209

Notes:

1. With manual override
2. Pilot seat in FKM

ANODIZED ALUMINIUM NAMUR

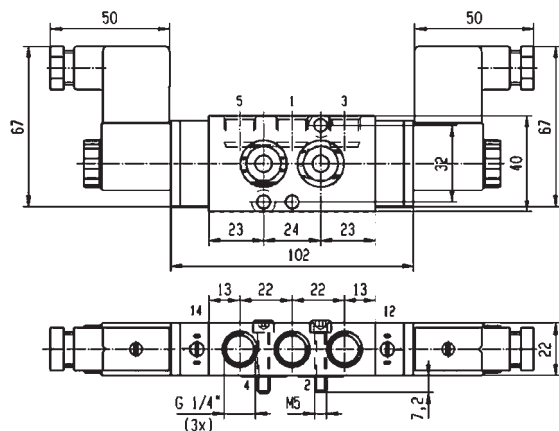
AIR OPERATED W1 CLOSED CENTER



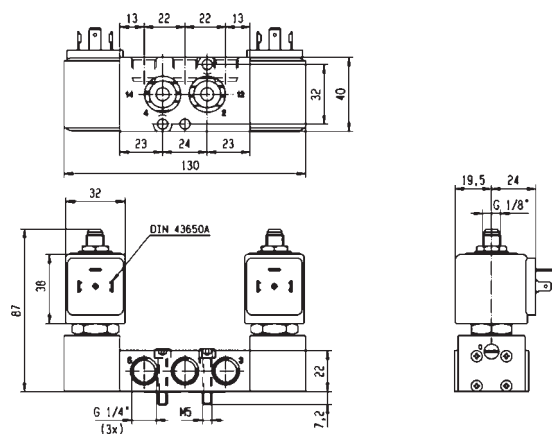
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	2.5	10	10	-20	50	NBR	542N03	-	-	-	-	-	-	-	8059



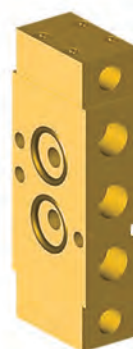
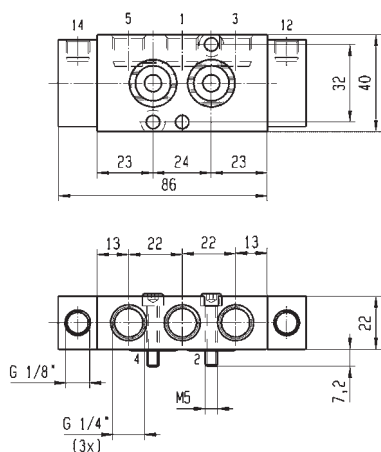
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	7	1250	10	-20	-20
To	1/4"	7	1250	10	50	50



Drawing 8057



Drawing 8209



Drawing 8059

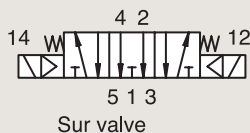
5/3

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N03-N04-N05 SERIES - HIGH FLOW ALUMINIUM SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM NAMUR

W3 EXHAUSTED IN CENTER POSITION



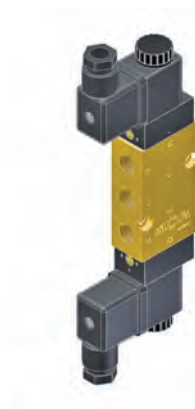
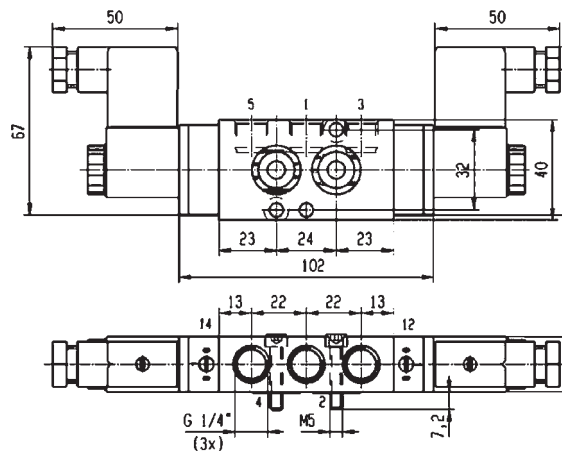
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	7	1250	3	10	10	-20	50	NBR	343N03 ₁	-	496131	-	-	3	3	1.2	8057
	7	1250	3	10	10	-20	50	NBR	343N03 ₁	-	496482	-	-	3	3	1.2	8057
	7	1250	3	10	10	-20	50	NBR	343N03 ₁	-	496637	22	Ex tD A22 IP65 - T95°C	3	3	1.2	8057

Notes:

1. With manual override



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	355	10	-20	-20
To	1/4"	7	1250	10	50	50



Drawing 8057





3 AND 5 WAY VALVES NAMUR PILOT OPERATED

L95 SERIES - ALUMINIUM POPPET VALVES WITH NAMUR INTERFACE



3/2
5/2

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
Pilot Operated	Anodized Aluminium/NAMUR	Solenoid operated - spring return	1/8"-1/4"	4	355	10	75	216

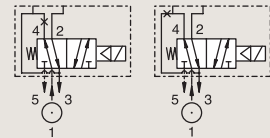
3/2 5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

L95 SERIES - ALUMINIUM POPPET VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM NAMUR

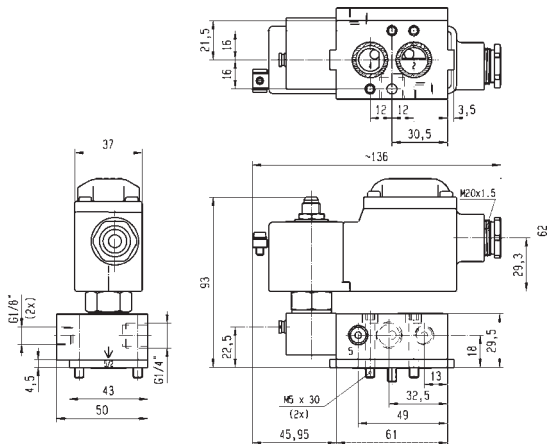
SOLENOID OPERATED - SPRING RETURN



Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal				ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C		Valve Ref.	Housing Ref.	Coil Ref.						
1/8"-1/4"	4	355	1	10	10	-10	50	NBR	341L9504 ¹²³	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7009
	4	355	1	10	10	-10	75	NBR	341L9504 ¹²³	8993	488980	-	-	2	2.5	1.1	7009
	4	355	1	10	10	-10	65	NBR	341L9534 ¹²³	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	3990
	4	355	1	10	10	-10	60	NBR	341L9534 ¹²³	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	3990
	4	355	1	10	10	-10	75	NBR	341L9534 ¹²³	2995	481865	-	-	8	9	2.1	3990
	4	355	2	-	10	-10	55	NBR	341L9594 ²³	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	3992
	4	355	1	-	10	-10	65	NBR	341L9594 ²³	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8354
	4	355	1	10	10	-10	65	NBR	341L9594 ²³	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	8354

Notes:

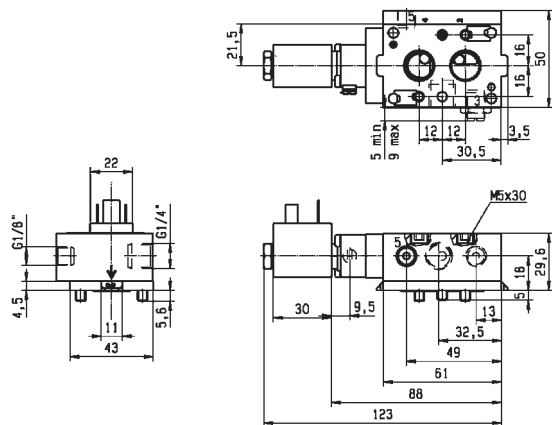
1. With manual override
2. Pilot seat in FKM
3. Valve delivered with the 3/2 - 5/2 conversion plate



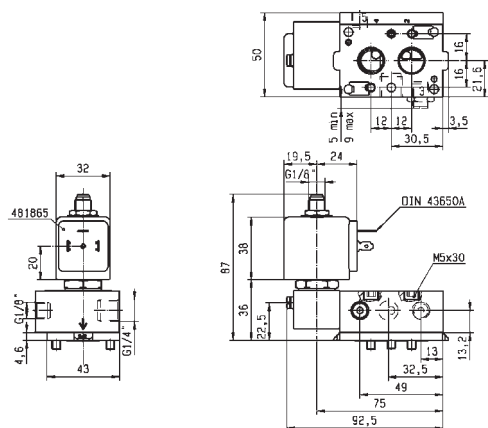
Drawing 8354



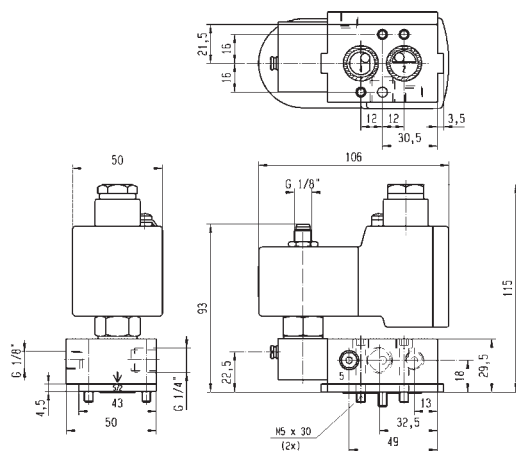
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	355	10	-10	-10
To	1/8"-1/4"	4	355	10	75	50



Drawing 7009



Drawing 3990



Drawing 3992

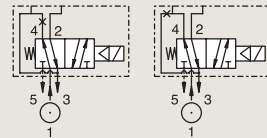
3/2 5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

L95 SERIES - ALUMINIUM POPPET VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM NAMUR

SOLENOID OPERATED - SPRING RETURN



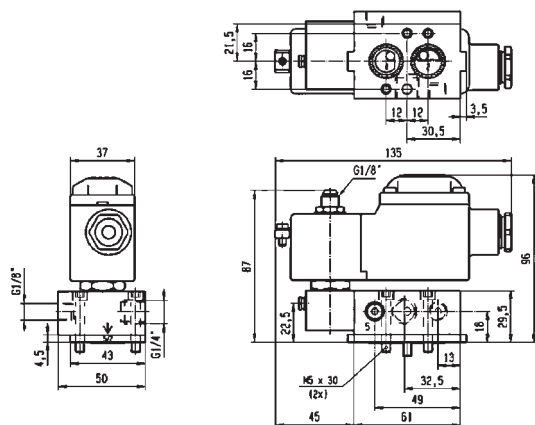
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	Max	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"- 1/4"	4	355	2	-	10	-10	65	NBR	341L9597 ₁₂₃	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	8025
	4	355	2	10	10	-10	65	NBR	341L9597 ₁₂₃	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	8025
	4	355	2	-	10	-10	65	NBR	341L9597 ₁₂₃	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	8025
	4	355	2	-	10	-10	75	NBR	341L9597 ₁₂₃	2995	482740	-	-	-	1.6	6.0/8.0	8025
	4	355	2	-	10	-25	55	NBR	341L9598 ₂₃	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	3992
	4	355	2	-	10	-25	65	NBR	341L9598 ₂₃	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8354
	4	355	2	10	10	-25	65	NBR	341L9598 ₂₃	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	8354

Notes:

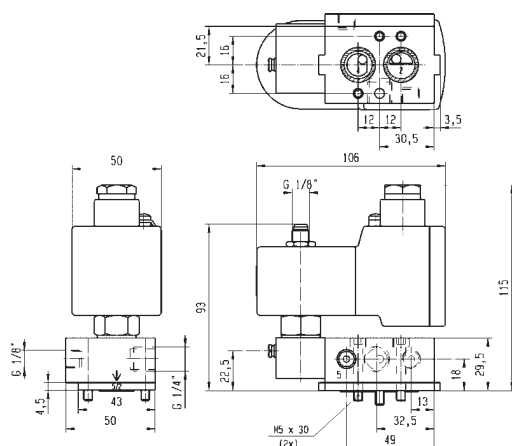
1. With manual override
2. Valve delivered with the 3/2 - 5/2 conversion plate
3. Pilot seat in PUR



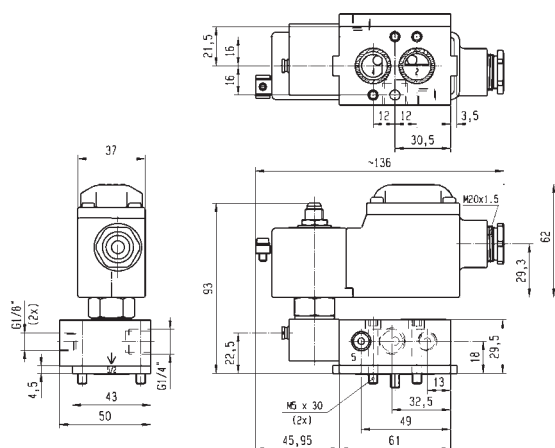
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	355	10	-10	-10
To	1/8"-1/4"	4	355	10	75	50



Drawing 8025



Drawing 3992



Drawing 8354





3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE



3/2
5/2
5/3

Way	Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Qn(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
3/2 - 5/2	Pilot Operated	316L Stainless St./NAMUR	Normally Closed	3/8"-1/4"	8	1400	10	80	222
			Solenoid operated - spring return	3/8"-1/4"	8	1400	10	80	224
	Pilot Operated	Anodized Aluminium/NAMUR	Solenoid operated - spring return	1/4"	8	1400	10	80	226
				1/8"-1/4"	4 to 8	1400	10	80	228
	External Operated	Anodized Aluminium/NAMUR	Air operated - spring return	1/8"-1/4"	4	1400	10	80	236
	Pilot Operated	Anodized Aluminium/NAMUR	Control by Electric Impulse	1/8"-1/4"	4	1400	10	80	236
5/2	Pilot Operated	316L Stainless St./NAMUR	Dual Solenoids	3/8"-1/4"	8	1400	10	80	238
		Anodized Aluminium/NAMUR	Dual Solenoids	1/4"	8	1400	10	80	240
				1/8"-1/4"	4	1400	10	80	242
5/3	Pilot Operated	Anodized Aluminium/NAMUR	W1 closed center position	1/4"	4	1400	10	65	244
				1/8"-1/4"	4	1400	10	80	244

3/2-5/2

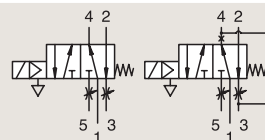
3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

316L STAINLESS ST.

NAMUR

NORMALLY CLOSED



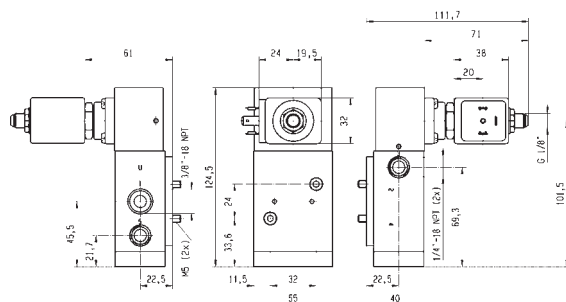
Port size NPT	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
3/8"-1/4"	8	1400	2	10	10	-25	65	NBR	U341N3250	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7554
	8	1400	2	10	10	-25	60	NBR	U341N3250	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7554
	8	1400	2	10	10	-25	80	NBR	U341N3250	2995	481865	-	-	8	9	2.1	7554
	8	1400	2	-	10	-25	55	NBR	U341N3292	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0	7556
	8	1400	2	10	10	-25	65	NBR	U341N3292	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0	7556
	8	1400	2	10	10	-25	65	NBR	U341N3292	-	495910	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0	7556
	8	1400	2	-	10	-25	80	NBR	U341N3295	-	496565	0-20	Ex ia IIB/IIC T4 to T6	-	0.3	9.0/10.1	7554
	8	1400	2	10	10	-25	75	NBR	U341N3295	-	492310	1-21	Ex mb II T4 to T5	6	6	9.0/10.1	7696
	8	1400	2	10	10	-25	65	NBR	U341N3295	-	496800	1-21	Ex db mb IIC T4	8	8	9.0/10.1	7554
	8	1400	2	-	10	-25	75	NBR	U341N3295	-	492210	1-21	Ex eb mb IIC T5 to T6	-	1 to 1.8	9.0/10.1	7696
	8	1400	2	10	10	-25	80	NBR	U341N3295	-	496555	1-21	Ex db mb IIC T4 to T6	6	6	9.0/10.1	7554
	8	1400	2	10	10	-25	75	NBR	U341N3295	-	496895	-	-	8	8	9.0/10.1	7554

Notes:

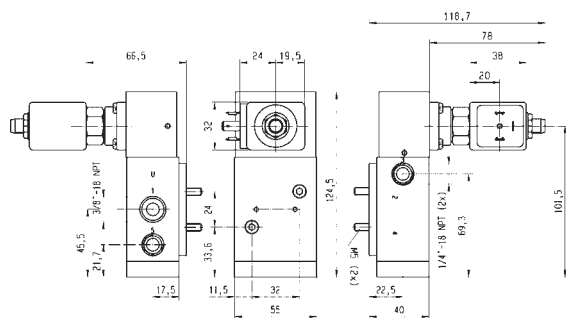
1. Pilot seal in FKM



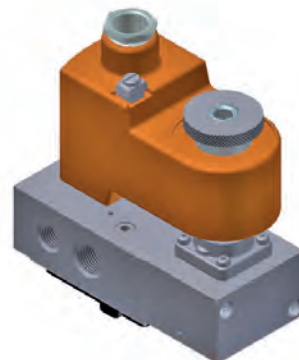
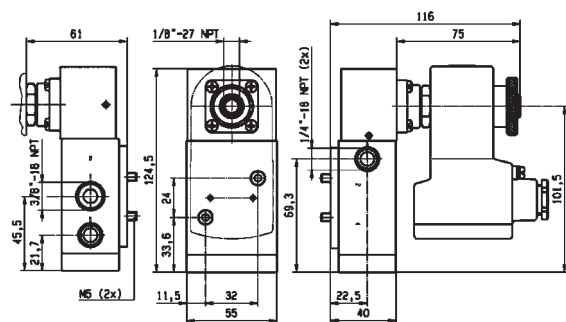
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	3/8"-1/4"	8	0	10	-25	-25
To	3/8"-1/4"	8	1400	10	80	0



Drawing 7554



Drawing 7556



Drawing 7696

3/2-5/2

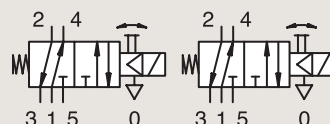
3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

316L STAINLESS ST.

NAMUR

SOLENOID OPERATED - SPRING RETURN

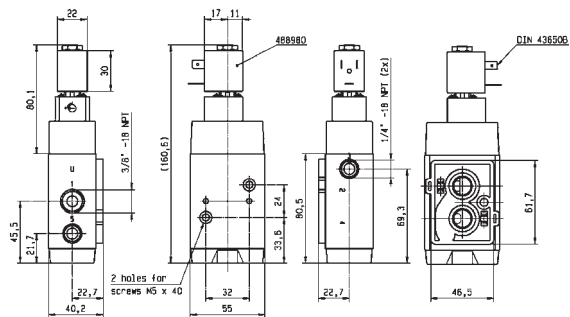


Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	Max	Min	Max							AC W	DC W		
NPT	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
3/8"-1/4"	8	1400	2	10	10	-25	50	NBR	U341N0250 ¹²³	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7577
1/4"	8	1400	2	10	10	-25	80	NBR	U341N0250 ¹²³	8993	488980	-	-	2	2.5	1.1	7577

Notes:

1. With manual override
2. With captured exhaust
3. Pilot seal in FKM

For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	3/8"-1/4"	8	1400	10	-25	-25
To	3/8"-1/4"	8	1400	10	80	50



Drawing 7577

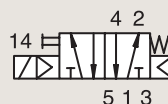
3/2-5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

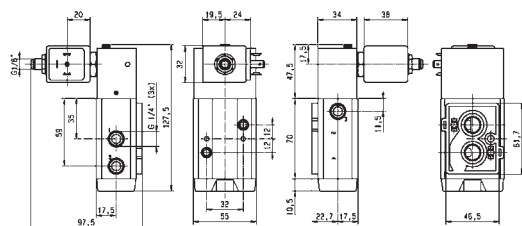
SOLENOID OPERATED - SPRING RETURN



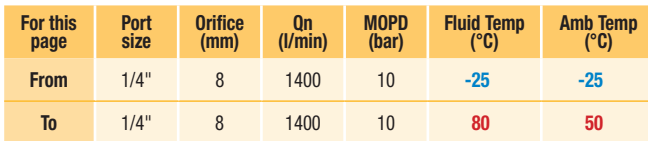
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
														AC W	DC W		
BSP	mm	Qn l/min	Min bar	AC bar	DC bar	Min °C	Max °C										
1/4"	8	1400	2	10	10	-25	50	NBR	341N02 ¹²³	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7313
	8	1400	2	10	10	-25	80	NBR	341N02 ¹²³	8993	488980	-	-	2	2.5	1.1	7313
	8	1400	2	10	10	-25	50	NBR	341N12 ¹²³	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7312
	8	1400	2	10	10	-25	80	NBR	341N12 ¹²³	8993	488980	-	-	2	2.5	1.1	7312
	8	1400	2	10	10	-25	65	NBR	341N22 ¹²³	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7318
	8	1400	2	10	10	-25	60	NBR	341N22 ¹²³	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7318
	8	1400	2	10	10	-25	80	NBR	341N22 ¹²³	2995	481865	-	-	8	9	2.1	7318
	8	1400	2	10	10	-25	65	NBR	341N32 ¹³	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7317
	8	1400	2	10	10	-25	60	NBR	341N32 ¹³	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7317
	8	1400	2	10	10	-25	80	NBR	341N32 ¹³	2995	481865	-	-	8	9	2.1	7317
	8	1400	2	10	10	-25	65	NBR	341N3202 ³	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7317
	8	1400	2	10	10	-25	60	NBR	341N3202 ³	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7317
	8	1400	2	10	10	-25	80	NBR	341N3202 ³	2995	481865	-	-	8	9	2.1	7317

Notes:

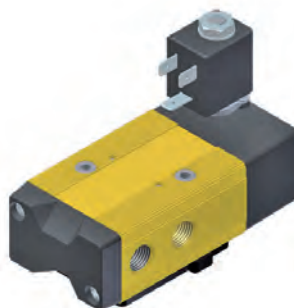
1. With manual override
2. With captured exhaust
3. Pilot seal in FKM



Drawing 7317



Drawing 7313



Drawing 7312



Drawing 7318

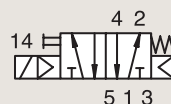
3/2-5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM

NAMUR



SOLENOID OPERATED - SPRING RETURN

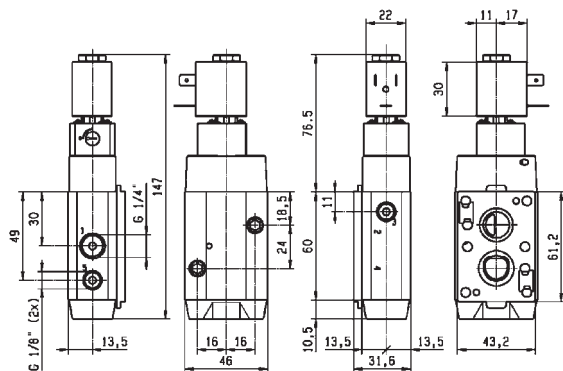
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	On l/min	bar	AC bar	DC bar	°C	°C										
1/8"-1/4"	4	600	2	10	10	-25	50	NBR	341N01 ¹²³	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7301
	4	600	2	10	10	-25	80	NBR	341N01 ¹²³	8993	488980	-	-	2	2.5	1.1	7301
	4	600	2	10	10	-25	50	NBR	341N11 ¹²³	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7300
	4	600	2	10	10	-25	80	NBR	341N11 ¹²³	8993	488980	-	-	2	2.5	1.1	7300
	4	600	2	10	10	-25	65	NBR	341N21 ¹³	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7311
	4	600	2	10	10	-25	60	NBR	341N21 ¹³	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7311
	4	600	2	10	10	-25	80	NBR	341N21 ¹³	2995	481865	-	-	8	9	2.1	7311

Notes:

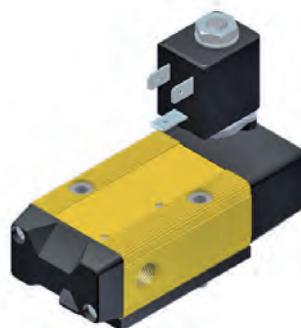
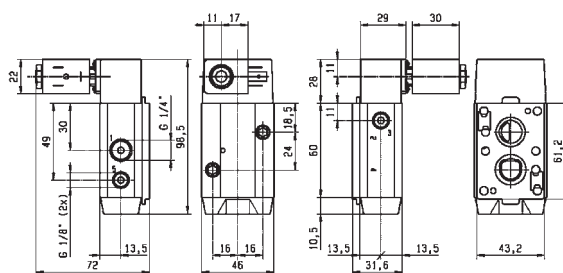
1. With manual override
2. With captured exhaust
3. Pilot with FKM seal



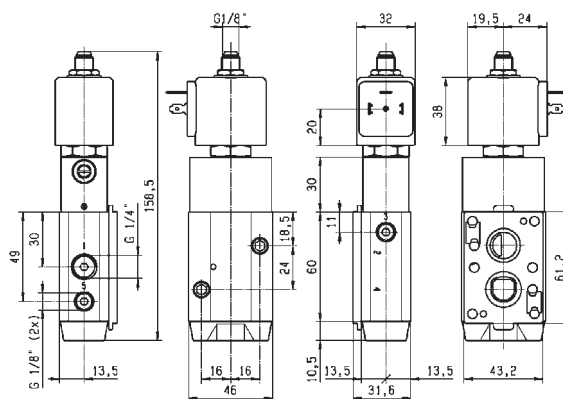
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	600	10	-25	-25
To	1/8"-1/4"	4	600	10	80	50



Drawing 7301



Drawing 7300



Drawing 7311

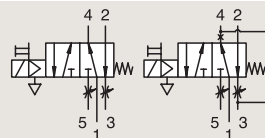
3/2-5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

SOLENOID OPERATED - SPRING RETURN



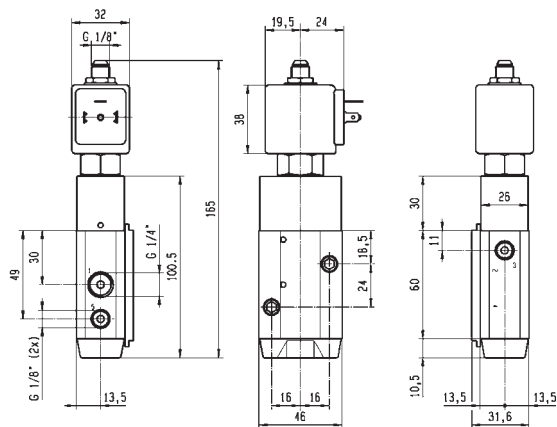
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	bar	bar	°C	°C										
1/8"-1/4"	4	600	2	-	10	-25	55	NBR	341N2190 ₂	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7874
	4	600	2	-	10	-25	55	NBR	341N2190 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7874
	4	600	2	10	10	-25	55	NBR	341N2190 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7874
	4	600	2	10	10	-25	65	NBR	341N31 ₁₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7295
	4	600	2	10	10	-25	60	NBR	341N31 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7295
	4	600	2	10	10	-25	80	NBR	341N31 ₁₂	2995	481865	-	-	8	9	2.1	7295
	4	600	2	10	10	-25	65	NBR	341N3102 ₂	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7295
	4	600	2	10	10	-25	60	NBR	341N3102 ₂	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7295
	4	600	2	10	10	-25	80	NBR	341N3102 ₂	2995	481865	-	-	8	9	2.1	7295
	4	600	2	10	10	-40	65	NBR	341N3108 ₁₃	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7295
	4	600	2	10	10	-40	60	NBR	341N3108 ₁₃	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7295
	4	600	2	10	10	-40	65	NBR	341N3108 ₃	2995	481865	-	-	8	9	2.1	7295
	4	600	2	10	10	-40	65	NBR	341N3128 ₃	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7295
	4	600	2	10	10	-40	60	NBR	341N3128 ₃	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7295
	4	600	2	10	10	-40	65	NBR	341N3128 ₃	2995	481865	-	-	8	9	2.1	7295
	4	600	2	-	10	-25	65	NBR	341N3130 ₁₂	-	495905	1-21	Ex db mb IIC T4	-	8	2.1	7295
	4	600	2	-	10	-25	60	NBR	341N3130 ₁₂	2995	495870	2-22	Ex nc AC IIC T3/T4	-	9	2.1	7295
	4	600	2	-	10	-25	80	NBR	341N3130 ₁₂	2995	481865	-	-	-	9	2.1	7295

Notes:

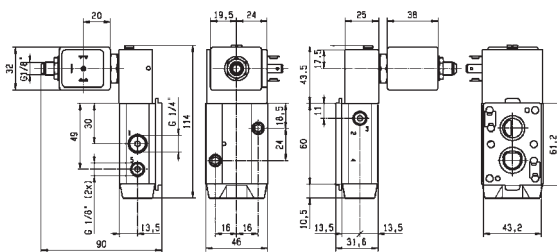
1. With manual override
2. Pilot with FKM seal
3. Pilot with PUR seal



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	600	10	-40	-25
To	1/8"-1/4"	4	600	10	80	50



Drawing 7874



Drawing 7295

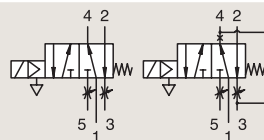
3/2-5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

SOLENOID OPERATED - SPRING RETURN



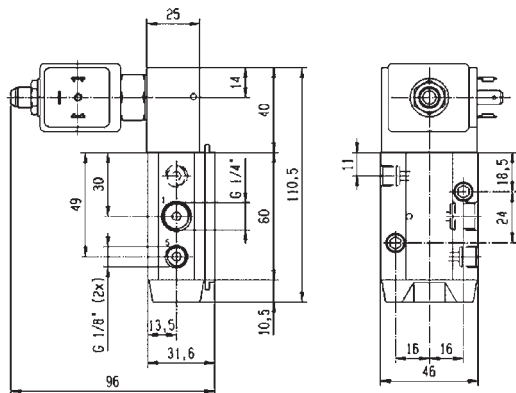
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)		Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"-1/4"	4	600	2	-	10	-10	55	NBR	341N3190 ₃	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7349
	4	600	2	-	10	-10	65	NBR	341N3190 ₃	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7349
	4	600	2	10	10	-10	65	NBR	341N3190 ₃	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7349
	4	600	2	-	10	-25	65	NBR	341N3196 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8017
	4	600	2	-	10	-25	55	NBR	341N3196 ₂	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	8017
	4	600	2	10	10	-25	65	NBR	341N3196 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	8017
	4	600	2	-	10	-25	65	NBR	341N3197 ₁₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8017
	4	600	2	10	10	-25	65	NBR	341N3197 ₁₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	8017
	4	600	2	-	10	-25	65	NBR	341N3197 ₁₂	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/7.0/8.0	8017
	4	600	2	-	10	-25	65	NBR	341N3197 ₁₂	2995	482740	-	-	-	1.6	6.0/7.0/8.0	8017

Notes:

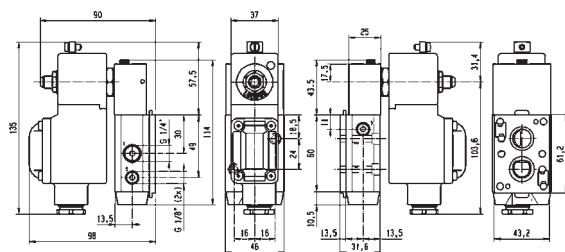
1. With manual override
2. Pilot seal in FKM
3. Pilot seal in PUR



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	600	10	-25	-25
To	1/8"-1/4"	4	600	10	65	50



Drawing 7349



Drawing 8017

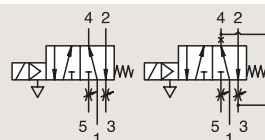
3/2-5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

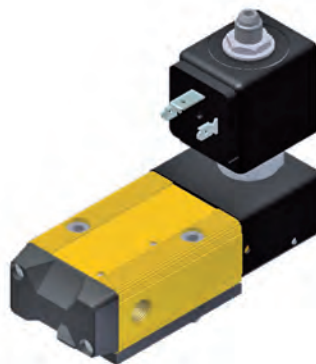
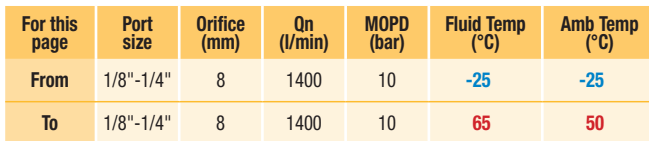
SOLENOID OPERATED - SPRING RETURN



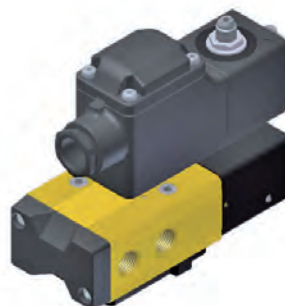
Port size BSP	Orifice Ø mm	Flow factor Qn l/min	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
1/8"-1/4"	8	1400	2	-	10	-25	55	NBR	341N3290 ₃	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	7350
	8	1400	2	-	10	-25	65	NBR	341N3290 ₃	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	7350
	8	1400	2	10	10	-25	65	NBR	341N3290 ₃	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	7350
	8	1400	2	-	10	-25	65	NBR	341N3296 ₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8029
	8	1400	2	-	10	-25	55	NBR	341N3296 ₂	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	6.0/7.0/8.0	8029
	8	1400	2	10	10	-25	65	NBR	341N3296 ₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	8029
	8	1400	2	-	10	-25	65	NBR	341N3297 ₁₂	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/7.0/8.0	8029
	8	1400	2	10	10	-25	65	NBR	341N3297 ₁₂	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/7.0/8.0	8029
	8	1400	2	-	10	-25	65	NBR	341N3297 ₁₂	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/7.0/8.0	8029
	8	1400	2	-	10	-25	65	NBR	341N3297 ₁₂	2995	482740	-	-	-	1.6	6.0/7.0/8.0	8029

Notes:

1. With manual override
2. Pilot with PUR seal
3. Pilot with FKM seal



Drawing 7350



Drawing 8029

3/2-5/2

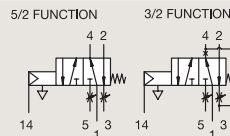
3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM

NAMUR

AIR OPERATED - SPRING RETURN

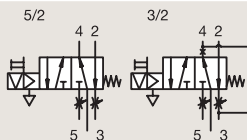


Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"	4	600	2	10	10	-25	80	NBR	541N01	-	-	-	-	-	-	-	7309
1/4"	4	600	2	10	10	-40	50	NBR	541N0108	-	-	-	-	-	-	-	7309

ANODIZED ALUMINIUM

NAMUR

CONTROL BY ELECTRIC IMPULSE



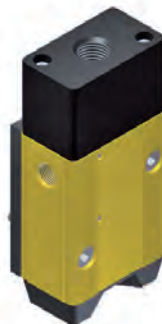
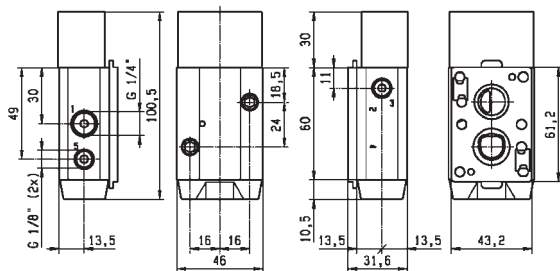
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"-1/4"	4	600	2	-	10	-25	80	NBR	345N31 ₁₂	4269	485400	-	-	-	13	4.0	7295

Notes:

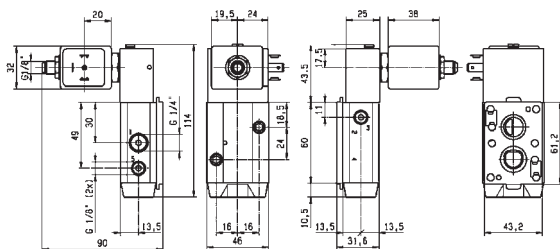
1. With manual override
2. Pilot seal in FKM



For this page	Port size	Orifice (mm)	Q _n (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	600	10	-25	-25
To	1/8"-1/4"	4	600	10	80	50



Drawing 7309



Drawing 7295

5/2

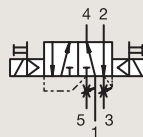
3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

316L STAINLESS ST.

NAMUR

DUAL SOLENOIDS



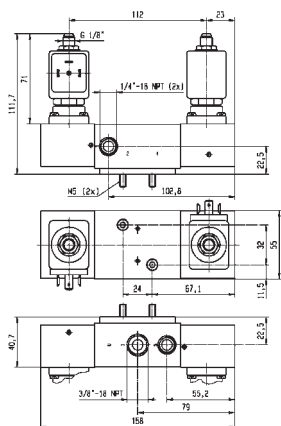
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC	Min	Max							AC W	DC W		
NPT	mm	Qn l/min	bar	AC bar	bar	°C	°C										
3/8"-1/4"	8	1400	2	10	10	-25	65	NBR	U347N3250 ₁	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7557
	8	1400	2	10	10	-25	60	NBR	U347N3250 ₁	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7557
	8	1400	2	10	10	-25	80	NBR	U347N3250 ₁	2995	481865	-	-	8	9	2.1	7557

Notes:

1. Pilot seal in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	3/8"-1/4"	8	1400	10	-25	-25
To	3/8"-1/4"	8	1400	10	80	50



Drawing 7557

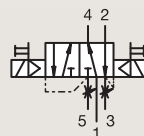
5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

DUAL SOLENOIDS



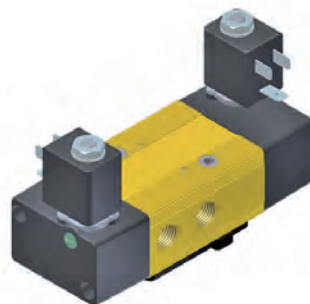
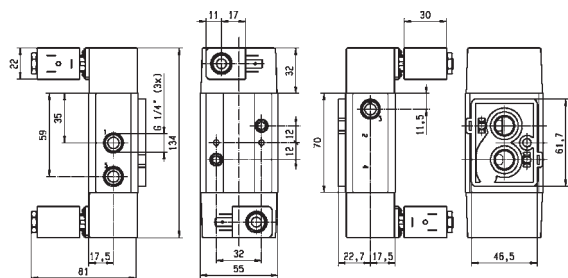
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max (MOPD)	DC	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"	8	1400	2	10	10	-25	50	NBR	347N12 ¹²³	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7315
	8	1400	2	10	10	-25	80	NBR	347N12 ¹²³	8993	488980	-	-	2	2.5	1.1	7315
	8	1400	2	10	10	-25	65	NBR	347N32 ¹³	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7320
	8	1400	2	10	10	-25	60	NBR	347N32 ¹³	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7320
	8	1400	2	10	10	-25	80	NBR	347N32 ¹³	2995	481865	-	-	8	9	2.1	7320

Notes:

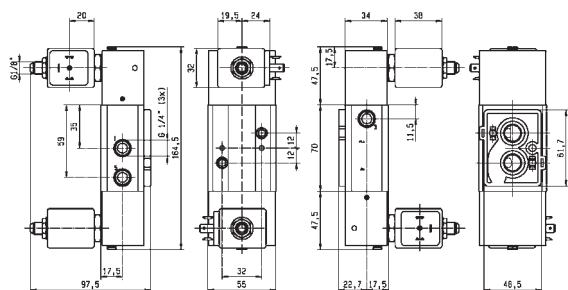
1. With manual override
2. With captured exhaust
3. Pilot with FKM seal



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/4"	8	1400	10	-25	-25
To	1/4"	8	1400	10	80	50



Drawing 7315



Drawing 7320

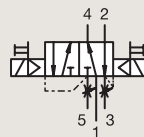
5/2

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

DUAL SOLENOIDS

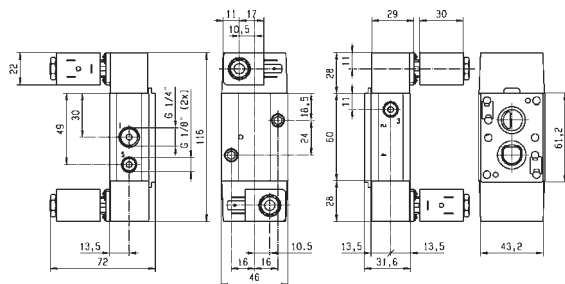


Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"-1/4"	4	400	2	10	10	-25	50	NBR	347N11 ¹²⁴	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7305
	4	400	2	10	10	-25	80	NBR	347N11 ¹²⁴	8993	488980	-	-	2	2.5	1.1	7305
	4	400	2	10	10	-25	65	NBR	347N31 ¹⁴	-	495905	1-21	Ex db mb IIC T4	8	8	2.1	7297
	4	400	2	10	10	-25	60	NBR	347N31 ¹⁴	2995	495870	2-22	Ex nc AC IIC T3/T4	8	9	2.1	7297
	4	400	2	10	10	-25	80	NBR	347N31 ¹⁴	2995	481865	-	-	8	9	2.1	7297
	4	400	2	-	10	-25	55	NBR	347N3190 ⁴	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	7.0/8.0	8141
	4	400	2	-	10	-25	55	NBR	347N3190 ⁴	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	7.0/8.0	8141
	4	400	2	10	10	-25	65	NBR	347N3190 ⁴	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	7.0/8.0	8141
	4	400	2	-	10	-25	55	NBR	347N3196 ³	2995	483580.01	0-20	Ex ia IIC T6	-	0.5 to 3	8.0	7297
	4	400	2	-	10	-25	65	NBR	347N3196 ³	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	8.0	7297
	4	400	2	10	10	-25	65	NBR	347N3196 ³	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	8.0	7297
	4	400	2	-	10	-25	65	NBR	347N3197 ¹³	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	3.0/6.0/8.0	7297
	4	400	2	10	10	-25	65	NBR	347N3197 ¹³	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	3.0/6.0/8.0	7297
	4	400	2	-	10	-25	65	NBR	347N3197 ¹³	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	3.0/6.0/8.0	7297
	4	400	2	-	10	-25	65	NBR	347N3197 ¹³	2995	482740	-	-	-	1.6	3.0/6.0/8.0	7297

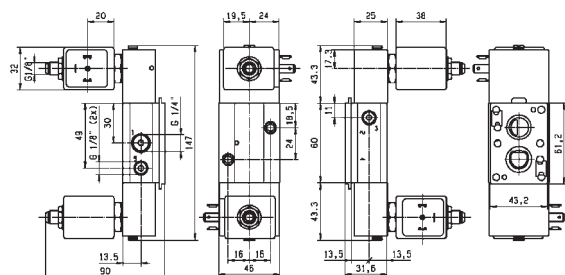
Notes:

1. With manual override
2. With captured exhaust
3. Pilot with PUR seal
4. Pilot with FKM seal

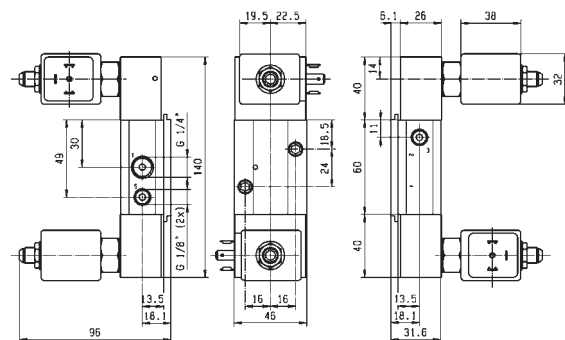
For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	400	10	-25	-25
To	1/8"-1/4"	4	400	10	80	50



Drawing 7305



Drawing 7297



Drawing 8141

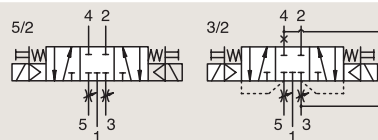
5/3

3 AND 5 WAY VALVES NAMUR PILOT OPERATED

N01 N02 SERIES - SPOOL VALVES WITH NAMUR INTERFACE

ANODIZED ALUMINIUM
NAMUR

W1 CLOSED CENTER POSITION



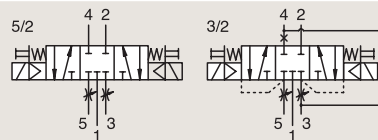
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/4"-1/8"	4	400	2	-	10	-25	65	NBR	342N3197 ¹²	-	495910	0-20	Ex ia IIC T4 to T6	-	0.3 to 3	6.0/8.0	7297
	4	400	2	10	10	-25	65	NBR	342N3197 ¹²	-	495900	1-21	Ex db mb IIC T4 to T6	2.5	2	6.0/8.0	7305
	4	400	2	-	10	-25	65	NBR	342N3197 ¹²	2995	496125	2-22	Ex nAC IIC T5/T6	-	1.6	6.0/8.0	7305
	4	400	2	-	10	-25	65	NBR	342N3197 ¹²	2995	482740	-	-	-	1.6	6.0/8.0	7305

Notes:

1. With manual override
2. Pilot seal in PUR

ANODIZED ALUMINIUM
NAMUR

W1 CLOSED CENTER POSITION



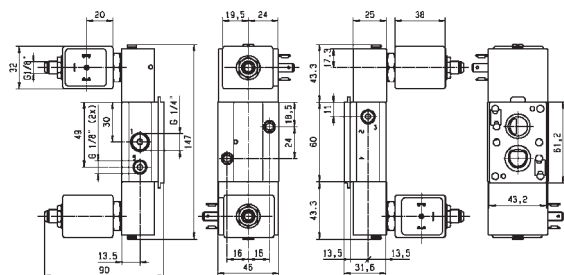
Port size	Orifice Ø	Flow factor	Operating Pressure Differential			Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	ATEX Zone	Protection Mode	Power		Coil Group	Dwg. No.
			Min	Max(MOPD)	DC bar	Min	Max							AC W	DC W		
BSP	mm	Qn l/min	bar	AC bar	DC bar	°C	°C										
1/8"-1/4"	4	400	2	10	10	-25	50	NBR	342N11 ¹²³	-	482606	1-21	Ex mb IIC T4/T5	2	2.5	1.1	7305
	4	400	2	10	10	-25	80	NBR	342N11 ¹²³	8993	488980	-	-	2	2.5	1.1	7305

Notes:

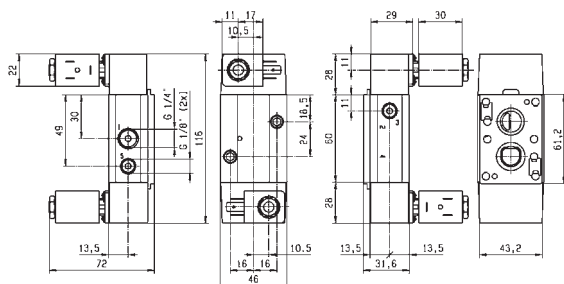
1. With manual override
2. With captured exhaust
3. Pilot seal in FKM



For this page	Port size	Orifice (mm)	Qn (l/min)	MOPD (bar)	Fluid Temp (°C)	Amb Temp (°C)
From	1/8"-1/4"	4	400	10	-25	-25
To	1/4"	4	400	10	80	50



Drawing 7297



Drawing 7305



A COMPLETE RANGE OF COILS, HOUSINGS AND ELECTRICAL PARTS FOR SOLENOID VALVES



DEFINITIONS

HOUSINGS OR COIL ASSEMBLY KITS, COILS AND ELECTRICAL PARTS



Housing:

We define a **housing** as the combination of the fixing elements including the nameplate **1**, the cover **2** or the subplate **6** and the envelope itself **4** or **5** which protects the coil and its electrical components. The housings may be made of metal or plastic material.

Coil assembly kit:

The coil assembly kit **7** or **9** is the set comprising a plate, washer and nut. Sometimes coil assembly kits consist only of a nut or a special fixing device.

Coil:

This consists of the winding and its plastic moulding. There are three different types of coils distinguished by their shape and dimensions: 40 mm **3**, 32 mm **8** and 22 mm **10**.

Electric part:

The electric part is the set comprising the housing, the assembly kit and the coil.

Attention:

Any Parker FCSE coil or electrical part may be energised only when mounted on a valve. Otherwise there is a risk of damaging the product and its surroundings (overheating, explosion, fire, etc.).

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Level of protection "db"	280
Level of protection "mb"	281
Level of protection "db mb"	286
Level of protection "eb"	291
Level of protection "eb mb"	292
Level of protection "ia"	295

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INDEX FOR EXPLOSION PROOF ELECTRICAL PARTS

Coil Reference	Coil Group	Designation	Power DC Pn (W)	Power AC Pn (W)	Ambient Temperature	UL	Degree of Protection	ATEX or NEMA 4X Protection (Gas)	Page
496637	1.2	Explosion proof electrical part "nc AC", 22 mm, double frequency	3.0	3.0	-40°C to +50°C	-	IP65	II 3 GD Ex tc IIC T 95°C	273
495880	2.0/2.2	Explosion proof electrical part "nc AC", 32 mm	14.0	14.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3	277
496155	2.0/2.2	Explosion proof increased safety electrical part "nc AC", 50 mm	14.0	14.0	-40°C to +65°C	-	IP67	II 3 GD Ex nc AC IIC T3	279
495915	4.0	Explosion proof increased safety electrical part "nc AC", 50 mm	13.0	11.0	-40°C to +65°C	-	IP67	II 3 GD Ex nc AC IIC T3	278
495870	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	274
495875	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	7.0	6.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	276
496110	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	-	9.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	274
495865	1.1	Explosion proof electrical part "nc AC", low power, 22 mm	2.5	2.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T5	272
496125	6.0	Explosion proof electrical part "nc AC", low power, 32 mm	1.6	-	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T5 / T6	275
492670	2.0/2.1	Explosion proof encapsulated electrical part "mb", 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T4	282
482605	1.1	Explosion proof encapsulated electrical part "mb", 32 mm	5.0	4.0	-40°C to +65°C	-	IP65	II 2 GD Ex mb II T4 / T5	281
482606	1.1	Explosion proof encapsulated electrical part "mb", low power, 32 mm	2.5	2.0	-40°C to +65°C	-	IP65	II 2 GD Ex mb II T4 / T5	281
492070	2.0/2.1	Explosion proof encapsulated electrical part "mb", with water proof metal housing, 50 mm	8.0	9.0	-40°C to +65°C	-	IP67	II 2 GD Ex mb II T4 / T5	283
HZ10	2.0/2.1	Explosion proof encapsulated electrical part "mb", double frequency	8.0	8.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T3 / T5	284
HZ11	2.0/2.2	Explosion proof encapsulated electrical part "mb", double frequency	14.0	14	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T3 / T5	285
497105	10.3	Flame proof electrical part "db", 50 mm	8.0	8.0	-50°C to +80°C	-	IP66	Ex db IIC T4 / T5 / T6	280
493640	2.0/2.1	Flame proof encapsulated electrical part "db mb", double frequency	8.0	8.0	-40°C to +75°C	-	IP65	II 2 GD Ex db mb IIC T4 / T5	290
495905	2.0/2.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	287
496560	10.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	288
496800	10.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	289
495900	6.0	Flame proof encapsulated electrical part "db mb", low power, 37 mm	2.0	2.5	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	286
496555	10.2	Flame proof encapsulated electrical part "db mb", 37 mm	6.0	6.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	288
496700	10.2	Flame proof encapsulated electrical part "db mb", 37 mm	6.0	6.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	289
494040	2.0/2.1	Explosion proof increased safety electrical part "eb", 50 mm	8.0	8.0	-40°C to +90°C	-	IP67	II 2 GD Ex eb IIC T3 / T4	291
483371	2.0/2.1	Explosion proof increased safety electrical part "eb", 50 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex eb IIC T4	291
492190	2.0/2.1	Explosion proof increased safety and encapsulated elect. part "eb", 50 mm	9.0	11.0	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T3 / T4	294
492310	10.1	Explosion proof increased safety and encapsulated electrical part "eb", 50 mm	6.0	6.0	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T4 / T5	292
492210	9.0	Explosion proof increased safety and encapsulated electrical part "eb", " Booster", 50 mm	1.0 to 1.8	-	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T5 / T6	293
495910	8.0	Explosion proof intrinsically safe electrical part "ia", "booster", 37 mm	0.3 to 1.2	-	-40°C to +80°C	-	IP67	II 1 GD Ex ia IIC T6 / T5 / T4	296
496565	9.0	Explosion proof intrinsically safe electrical part "ia", " Booster", 37 mm	0.77 to 2.58	-	-40°C to +80°C	-	IP67	II 1 GD Ex ia IIC T6 / T5 / T4	297
483580.01	7.0	Explosion proof intrinsically safe electrical part "ia", 32 mm	3.0	-	-40°C to +55°C	-	IP65	II 1 GD Ex ia IIC T6	295
488650.01	7.0	Explosion proof intrinsically safe electrical part "ia", 50 mm	0.3 to 3.0	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	300
492965.01	9.0	Explosion proof intrinsically safe electrical part "ia", " Booster", 50 mm	0.3 to 2.3	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	298
482870.01	12.0	Explosion proof intrinsically safe electrical part "ia", 50 mm	3.0	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	299

LIST OF COIL GROUPS

Parker coils and electrical parts are classified by groups determining their compatibility with Parker solenoid valves.

Group	For application with
1.1	Standard valves or on 2000 Series with standard pilot
1.2	Standard valves or on 2000 Series for high flow
2.0	Standard valves or on 7000 Series with standard pilot
2.1	Standard valves or on 7000 Series, for coils 8 - 9 W
2.2	Standard valves or on 7000 Series, for coils 14 W
3.0	Standard valves or on 7000 Series with reduced power
4.0	Standard valves or on 7000 Series, for bistable (Impulse) coils or electrical parts
6.0	Special valves "97" or on 7000 Series, for Intrinsically safe coils or electrical parts
7.0	Special valves "90", for coils and intrinsically safe electrical parts
8.0	Special valves "97" or on 7000 Series, for Intrinsically safe coils or electrical parts with booster
9.0	Special valves "xx" or on 9000 Series, for Intrinsically safe coils or electrical parts with booster
10.1	Standard valves or on 9000 Series with standard pilot
10.2	Standard valves or on 9000 Series "db mb"
10.3	Special valves or on 8000 Series "d"
12.0	Standard valves or on 9000 Series with manual reset

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Level of protection "nc AC"	272
Level of protection "db"	280
Level of protection "mb"	281
Level of protection "db mb"	286
Level of protection "eb"	291
Level of protection "eb mb"	292
Level of protection "ia"	295

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2.0/2.1

COILS FOR DIN PLUG CONNECTION



COILS 32 mm

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc. Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.



Specification			Standard			Double frequency		
Ref. (without DIN plug) Ref. (with DIN plug)			481865			483510		
Coil Group			2.0 / 2.1					
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).					
Class of insulation			F 155°C					
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type A					
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.					
Elect. Power	DC	Pn (hot)	9 W			-		
		P (cold) 20°C	12 W			-		
	AC	Pn (holding)	8 W			9 W		
		Attraction cold	26 VA (9 W)			32 VA (10 W)		
Weight			130 g (without plug)					
Voltages "Un"			VAC/Hz	Code	VDC	Code	VAC/Hz	Code
-10% to +10% of the Un			24/50	A2	24	C2	24/50, 24/60	P0
			48/50	A4	48	C4	48/50, 48/60	S4
			110/50	A5	110	C5	110-115/50, 120/60	S5
			220-230/50	3D			220-240/50, 240/60	S6

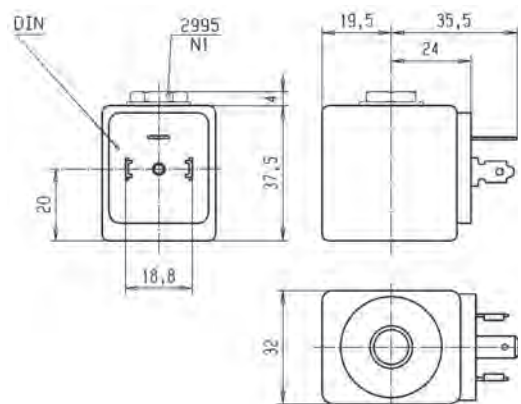
To Order a Coil choose Coil Ref + Voltage Code, example: 481865 for 24 VDC = 481865C2

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see example below:

The coil assembly kit **Ref. 2995** corresponds to the "housing".

It is composed of a nameplate giving details of the valve type, a round washer and a nut to ensure the fixing between 32 mm coil and the valve.





COIL GROUP
2.0/2.1
2.2

COILS FOR DIN PLUG CONNECTION

HIGH TEMPERATURE COILS 32 mm

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.



Specification			High temperature			High temp. + high power				
Ref. (without DIN plug) Ref. (with DIN plug)			492453			492425				
Coil Group			2.0 / 2.1			2.0 / 2.2				
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).							
Class of insulation			H 180°C							
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type A							
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.							
Elect. Power	DC	Pn (hot)	9 W			14 W				
		P (cold) 20°C	12 W			21 W				
	AC	Pn (holding)	8 W			14 W				
		Attraction cold	26 VA (9 W)			55 VA (18 W)				
Weight			130 g (without plug)							
Voltages "Un"			VAC/Hz	Code	VDC	Code	VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			24/50	A2	24	C2	24/50	A2	24	C2
			110/50	A5	110	C5	110/50	A5		
			220/50-230/50	3D			230/50	F4		

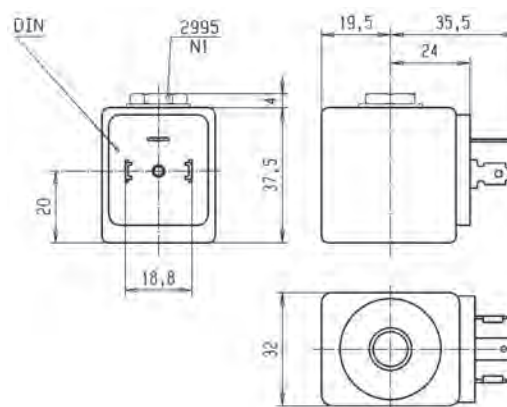
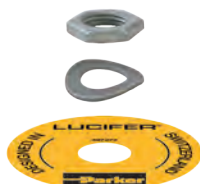
To Order a Coil choose Coil Ref + Voltage Code, example: 492453 for 24VDC= **492453C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see example below:

The coil assembly kit **Ref. 2995** corresponds to the "housing".

It is composed of a nameplate giving details of the valve type, a round washer and a nut to ensure the fixing between 32 mm coil and the valve.



REDUCED POWER COIL 32 mm

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.



Specification		Reduced power			
Ref. (without DIN plug)		482730			
Ref. (with DIN plug)		482735			
Coil Group		3.0			
Degree of protection		IP65 according to IEC / EN 60529 standards (with DIN plug).			
Class of insulation		F 155°C			
Electrical connection		The coil is connected with a 2 P + E plug according to EN 175301-803 type A			
Ambient temperature		-40°C to +50°C			
		The application is limited also by the temperature range of the valve.			
Elect. Power	DC	Pn (hot)	7 W		
		P (cold) 20°C	9 W		
	AC	Pn (holding)	6 W		
		Attraction cold	20 VA (7 W)		
	Weight		130 g (without plug)		
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		220-230/50	3D	24	C2

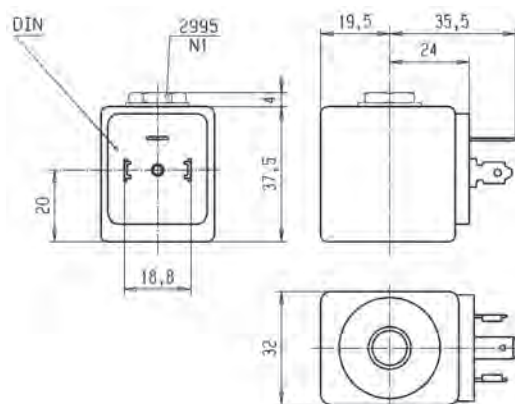
To Order a Coil choose Coil Ref + Voltage Code, example: 482730 for 24VDC = **482730C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see example below:

The coil assembly kit **Ref. 2995** corresponds to the "housing".

It is composed of a nameplate giving details of the valve type, a round washer and a nut to ensure the fixing between 32 mm coil and the valve.



COIL GROUP

6.0

COILS FOR
DIN PLUG CONNECTION

LOW POWER COIL 32 mm

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.



Specification			Miniwatt	
Reference (without DIN plug)			482740	
Reference (with DIN plug)				
Coil Group			6.0	
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).	
Class of insulation			F 155°C	
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type A	
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.	
Elect. Power	DC	Pn (hot)	1.6 W	
		P (cold) 20°C	2.1 W	
	AC	Pn (holding)	-	
		Attraction cold	-	
		Weight		
Voltages "Un"			VDC	Code
-10% to +10% of the Un			24	C2

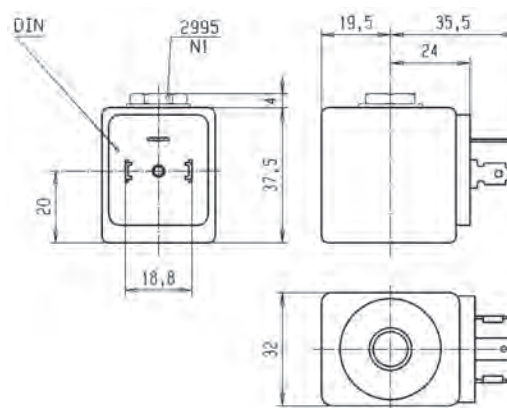
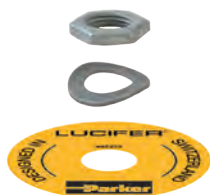
To Order a Coil choose Coil Ref + Voltage Code, example: 482740 for 24VDC = **482740C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see example below:

The coil assembly kit **Ref. 2995** corresponds to the "housing".

It is composed of a nameplate giving details of the valve type, a round washer and a nut to ensure the fixing between 32 mm coil and the valve.



UL COIL 32 mm

This coil can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection

- simplifies conversion of existing equipment to other requirements, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.

DIN plug connector to be ordered separately (see coil accessories section)



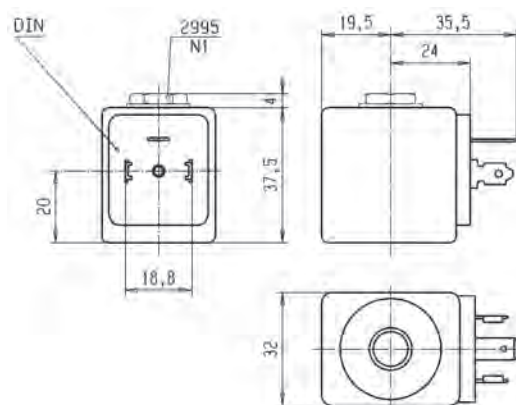
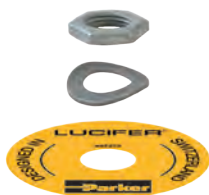
Specification			UL-recognized coil - UL File E200N - designation AMIF		
Reference (without DIN plug)			491514		
Coil Group			2.0 / 2.1		
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).		
Class of insulation			F (155°C)		
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type A		
Ambient temperature			-40°C to 50°C The application is limited also by the temperature range of the valve.		
Elect. Power	DC	Pn (hot)	-	12 W	
		P (cold) 20°C	-	16 W	
	AC	Pn (holding)	11 W	-	
		Attraction cold	40 VA (13 W)	-	
Weight			130 g (without plug)		
Voltages "Un"		VAC/Hz	Code	VDC	Code
- 15% to +10% of the Un		110/50-120/60	P3	24	C2
		220/50-240/60	Q3		

To Order a Coil choose Coil Ref + Voltage Code, example: 491514 for 24VDC = 491514C2

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see example below:

The coil assembly kit
Ref. 2995 with non UL valve
 and Ref. 2995.03 with UL valve
 correspond to the "housing".
 It is composed of a nameplate
 giving details of the valve type,
 a round washer and a nut
 to ensure the fixing between
 32 mm coil and the valve.



COIL GROUP

1.1

COILS FOR
DIN PLUG CONNECTION

COILS 22 mm

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

This coil is designed for valves equipped with a miniature tube assembly (2000 series valves). This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.
Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.
Coil conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive.



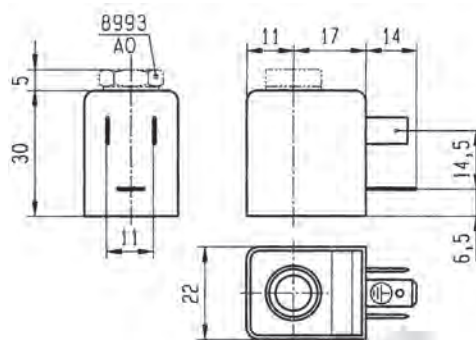
Specification			Low power			High power				
Ref. (without DIN plug) Ref. (with DIN plug)			488980			481180				
Coil Group			1.1							
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).							
Class of insulation			F 155°C							
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type B.							
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.							
Elect. Power	DC	Pn (hot)	2.5 W			5 W				
		P (cold) 20°C	3 W			6.5 W				
	AC	Pn (holding)	2 W			4 W				
		Attraction cold	5.7 VA (2.5 W)			8.9 VA (5 W)				
Weight			100 g with DIN Plug							
Voltages "Un"			VAC/Hz	Code	VDC	Code	VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			24/50	A2	24	C2	24/50	A2	24	C2
			48/50	A4	48	C4	110/50-115/50	0A		
			110/50-115/50	0A	110	C5	220/50-230/50	3D		
			220/50-230/50	3D						

To Order a Coil choose Coil Ref + Voltage Code, example: 488980 for 24VDC = **488980C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see example below:

The coil assembly kit **Ref. 8993** corresponds to the valve housings. It is composed of a nameplate with the details of the valve type, a washer and a nut to secure the 22 mm coil to the valve.



COILS FOR
DIN PLUG CONNECTION

UL COIL 22 mm

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

This coil is designed for valves equipped with a miniature tube assembly (2000 series valves). This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coil conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive.



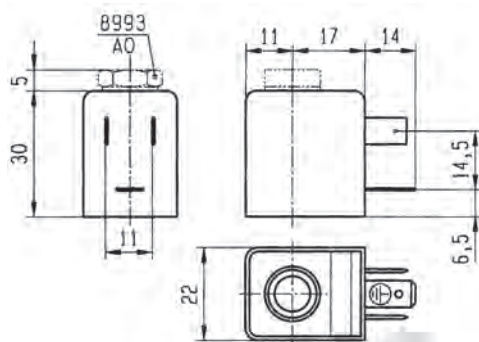
Specification			Standard UL (only if used with 321K, 121M, 131M valves)		
Reference (without DIN plug) Reference (with DIN plug)			492912		
Coil Group			1.1		
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).		
Class of insulation			A 105°C for UL/CSA		
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type B.		
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.		
Elect. Power	DC	Pn (hot)	4 W		
		P (cold) 20°C	4.5 W		
	AC	Pn (holding)	3 W		
		Attraction cold	7.5 VA (4 W)		
		Weight			100 g with DIN Plug
Voltages "Un" - 15% to +10% of the Un		VAC/Hz	Code	VDC	Code
		230/50-240/60	T1	24	C2

To Order a Coil choose Coil Ref + Voltage Code, example: 492912 for 24VDC = **492912C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see example below:

The coil assembly kit **Ref. 8993** corresponds to the valve housings. It is composed of a nameplate with the details of the valve type, a washer and a nut to secure the 22 mm coil to the valve.



COIL GROUP

1.1

COILS FOR
DIN PLUG CONNECTION

DOUBLE FREQUENCY COIL 22 mm

This coil can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

This coil is designed for valves equipped with a miniature tube assembly (2000 series valves). This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coil conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive.

DIN plug connector to be ordered separately (see coil accessories section).



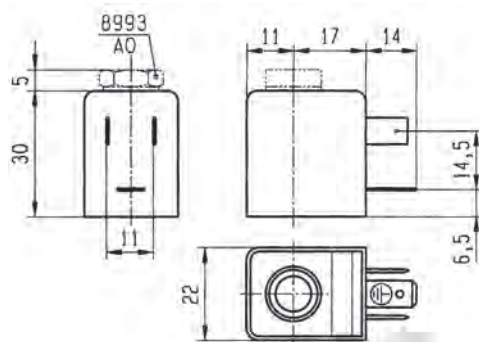
Specification			Double frequency	
Reference (without DIN plug)			483590	
Coil group			1.1	
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).	
Class of insulation			F 155°C	
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type B.	
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.	
Elect. Power	DC	Pn (hot)	-	
		P (cold) 20°C	-	
	AC	Pn (holding)	3 W	
		Attraction cold	7.5 VA (4 W)	
		Weight		100 g with DIN Plug
Voltages "Un"		VAC/Hz	Code	
-10% to +10% of the Un		24/50-60	P0	
		48/50-60	S4	
		110-115/50, 120/60	S5	
		220-240/50, 240/60	S6	

To Order a Coil choose Coil Ref + Voltage Code, example: 483590 for 24/50,24/60 = **483590P0**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see example below:

The coil assembly kit **Ref. 8993** corresponds to the valve housings. It is composed of a nameplate with the details of the valve type, a washer and a nut to secure the 22 mm coil to the valve.



DOUBLE FREQUENCY COIL 22 mm

This coil can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

This coil is designed for valves equipped with a miniature tube assembly (2000 series valves). This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coil conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive.

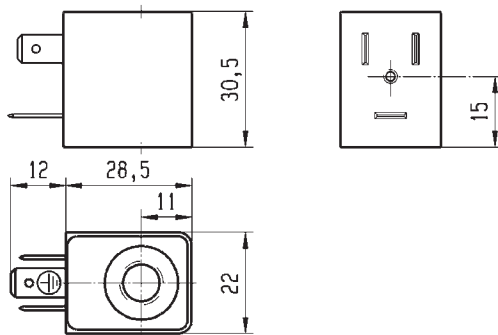
DIN plug connector to be ordered separately (see coil accessories section).



Specification			Double frequency		
Reference (without DIN Plug)			496131		
Coil group			1.2		
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).		
Class of insulation			F 155°C		
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type B.		
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.		
Elect. Power	DC	Pn (hot)	3 W		
		P (cold) 20°C	-		
	AC	Pn (holding)	3 W		
		Attraction cold	-		
Weight			60 g		
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		24/50-60	P0	24 V	C2
		110/50-60	P2	48 V	C4
		230/50-60	P9	110 V	C5
		48/50-60	S4		

To Order a Coil choose Coil Ref + Voltage Code, example: 496131 for 24VDC = **496131C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.





DOUBLE FREQUENCY COIL 22 mm

This coil can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

This coil is designed for valves equipped with a miniature tube assembly (2000 series valves). This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coil conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive.

DIN plug connector included.

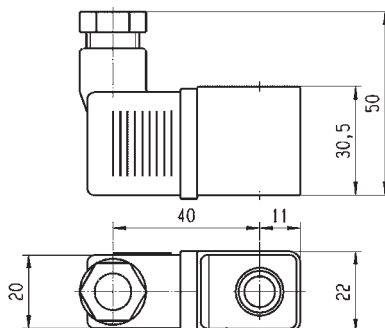


Specification			Double frequency			
Reference			496482			
Coil group			1.2			
Degree of protection			IP65 according to IEC / EN 60529 standards (with DIN plug).			
Class of insulation			F 155°C			
Electrical connection			The coil is connected with a 2 P + E plug according to EN 175301-803 type B.			
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.			
Elect. Power	DC	Pn (hot)	3 W			
		P (cold) 20°C	-			
	AC	Pn (holding)	3 W			
		Attraction cold	-			
Weight			75 g			
Voltages "Un"			VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			24/50-60	P0	24 V	C2
			110/50-60	P2	48 V	C4
			230/50-60	P9	110 V	C5
			48/50-60	S4		

To Order a Coil choose Coil Ref + Voltage Code, example: 496482 for 24VDC = **496482C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

"The housing kit is already included in the valve reference, it is not needed to order it separately."



COIL FOR OIL AND GAS 37 mm

This coil can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.

DIN plug connector included.

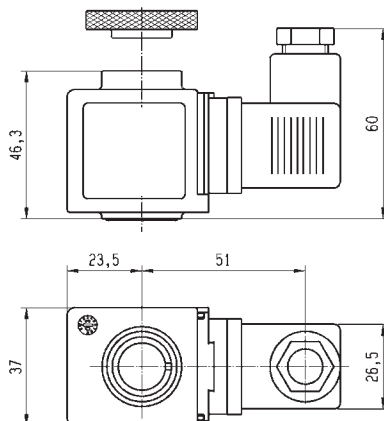


Specification			Coil for Oil and Gas			
Reference (with DIN plug)			496895			
Coil group			10.1			
Degree of protection			IP65 according to IEC / EN 60529 standards			
Class of insulation			H 180°C			
Electrical connection			With DIN plug 492459 (AC) or 486586 (DC)			
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.			
Elect. Power	DC	Pn (hot)	8 W			
		P (cold) 20°C	-			
	AC	Pn (holding)	8 W			
		Attraction cold	-			
Weight			273 g			
Voltages "Un" -10% to +10% of the Un		VAC/Hz		Code	VDC	Code
		230/50-60		P9	24	C2
		24/50-60		P0	48	C4
						C5

To Order a Coil choose Coil Ref + Voltage Code, example: 496895 for 24VDC = 496895C2

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

The fixing nut (housing kit) is already included in the coil kit.



COIL GROUP

2.0/2.1**COILS WITH
FLYING LEADS****COIL 32 mm IP67**

This coil can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.

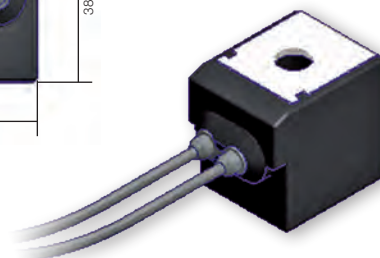
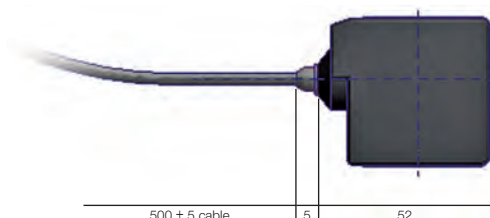


Specification			Coil with two 500 mm flying leads			
Reference			496081			
Coil Group			2.0 / 2.1			
Degree of protection			IP67 according to IEC / EN 60529 standards			
Class of insulation			F 155°C			
Ambient temperature			- 10 °C to +50°C The application is limited also by the temperature range of the valve.			
Elect. Power	DC	Pn (hot)	9 W			
		P (cold) 20°C	-			
	AC	Pn (holding)	9 W			
		Attraction cold	32 VA			
Weight			180 g			
Voltages "Un"			VAC/Hz	Order Number	VDC	Order Number
-10% to +10% of Un for AC - 5 % to + 10 % for Un DC			24/50 - 24/60	P0	24	C2
			110-115/50 - 120/60	S5	12	C1
			220-240/50 - 240/60	S6		

To Order a Coil: Use 6 digits ordering number - **Code Example:** 496081 for 24VDC = 496081C2

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

Please order housing Ref: 2995





COIL 32 mm IP67 UL

This coil can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.

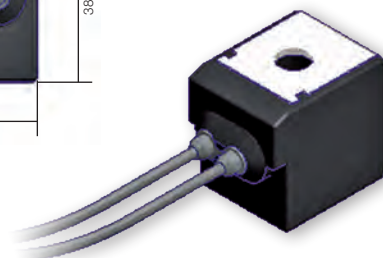
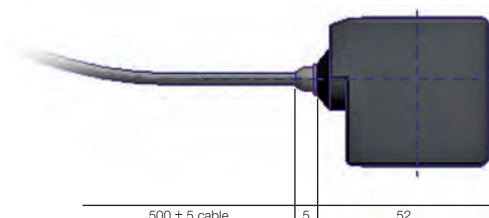


Specification			UL Coil with two 500 mm flying leads			
Reference			496082			
Coil Group			2.0 / 2.2			
Degree of protection			IP67 according to IEC / EN 60529 standards			
Class of insulation			F 155°C			
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.			
Elect. Power	DC	Pn (hot)	12 W			
		P (cold) 20°C	16 W			
	AC	Pn (holding)	13-14 W			
		Attraction cold	40 VA			
Weight			180 g			
Voltages "Un"			VAC/Hz	Order Number	VDC	Order Number
-10% to +10% of Un for AC			220/50 - 240/60	Q3	24	C1
- 5 % to + 10 % for Un DC					12	C2

To Order a Coil: Use 6 digits ordering number - **Code Example:** 496082 for 24VDC= 496082C2

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

Valves please order housing Ref: 2995



COIL GROUP

2.0/2.1**COILS WITH
SCREW TERMINALS****STANDARD COILS 40 mm**

These coils can be mounted with every Parker Solenoid Valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

They can be mounted with all metal housings.

The coil winding is completely encapsulated in synthetic material.

Easy mounting in confined spaces. Electrical connection with screw terminals for wire up to 1.5 mm².

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.

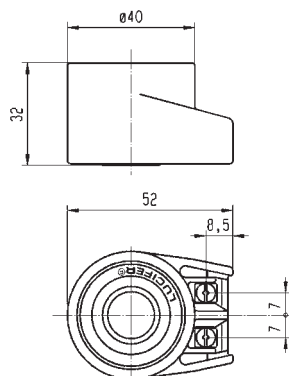


Specification			Standard			Double Frequency		
Reference			481000			483520		
Coil Group			2.0 / 2.1					
Class of insulation			F 155°C					
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve..					
Elect. Power	DC	Pn (hot)	8W			-		
		P (cold) 20°C	9W			-		
	AC	Pn (holding)	8W			9W		
		Attraction cold	32 VA (9 W)			36 VA (10 W)		
Weight			130 g			130 g		
Voltages "Un"		VAC/Hz	Code	VDC	Code	VAC/Hz		Code
-10% to +10% of the Un		24/50	A2	24	C2	24/50-60		P0
(-15 % to +5 % for double-frequency coil with voltage code S6 if 240 V/50/Hz is used).		110/50-115/50 220/50-230/50	A4 3D	48 110	C4 C5	220-240/50-240/60		S6

To Order a Coil choose Coil Ref + Voltage Code, example: 481000 for 24VDC = **481000C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see examples below:



Ref. 4270 - Protectio **IP 44** according to IEC / EN 60529 standard (with cable gland)



Ref. 4538 - Protectio **IP 67** according to IEC / EN 60529 standard

HIGH POWER COILS 40 mm

This coil can be mounted with every Parker Solenoid Valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

They can be mounted with all metal housings.

The coil winding is completely encapsulated in synthetic material.

Easy mounting in confined spaces. Electrical connection with screw terminals for wire up to 1.5 mm².

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.

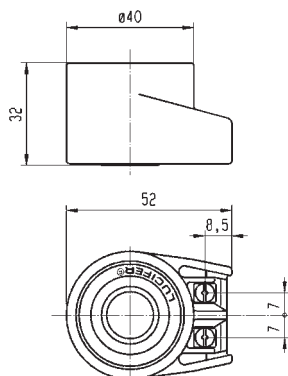


Specification			High Power
Reference			481044
Coil Group			2.0 / 2.2
Class of insulation			F 155°C
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.
Elect. Power	DC	Pn (hot)	-
		P (cold) 20°C	-
	AC	Pn (holding)	14 W
		Attraction cold	56 VA (20 W)
Weight			130 g
Voltages "Un"		VAC/Hz	Code
-10% to +10% of the Un		24/50	A2
		110/50	A5
		220/50	A7
		230/50	F4

To Order a Coil choose Coil Ref + Voltage Code, example: 481044 for 24VAC/50Hz = 481044A2

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see examples below:



Ref. 4270 - Protectio IP 44 according to IEC / EN 60529 standard (with cable gland)



Ref. 8520 - Protectio IP 67 according to IEC / EN 60529 standard

COIL GROUP

2.0/2.1
2.2

COILS WITH SCREW TERMINALS



HIGH TEMPERATURE COILS 40 mm

These coils can be mounted with every Parker Solenoid Valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

They can be mounted with all metal housings.

The coil winding is completely encapsulated in synthetic material.

Easy mounting in confined spaces. Electrical connection with screw terminals for wire up to 1.5 mm².

Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.

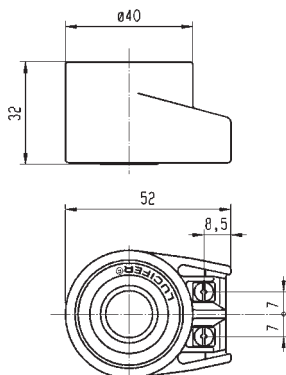


Specification			High Temperature				High Temperature & High Power					
Reference			485100				486265					
Coil Group			2.0 / 2.1				2.0 / 2.2					
Class of insulation			H 180°C									
Ambient temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.									
Elect. Power	DC	Pn (hot)	8 W				14 W					
		P (cold) 20°C	9 W				21 W					
	AC	Pn (holding)	8 W				14 W					
		Attraction cold	32 VA (9 W)				56 VA (20 W)					
Weight			140 g									
Voltages "Un"			VAC/Hz		Code	VDC	Code	VAC/Hz		Code	VDC	Code
-10% to +10% of the Un			24/50		A2	24	C2	24/50		A2	24	C2
			220/50-230/50		3D			110/50		A5		
								220/50		A7		
								230/50		F4		

To Order a Coil choose Coil Ref + Voltage Code, example: 485100 for 24VAC/50Hz = **485100A2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

These coils must be used with suitable housings, see examples below:



Ref. 4270 - Protectio **IP 44** according to IEC / EN 60529 standard (with cable gland)



Ref. 8520 - Protectio **IP 67** according to IEC / EN 60529 standard

BISTABLE COILS 40 mm FOR IMPULSE APPLICATIONS

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

These coils are specially designed for bistable (or impulse or magnetic latch) solenoid valves for Heating Applications.



Specification		Bistable (Impulse)			
Reference		484990		485400	
Coil Group		4.0			
Class of insulation		F 155°C			
Ambient temperature		-40°C to +50°C The application is limited also by the temperature range of the valve.			
Length of impulses		Switch on (terminals A-B): minimum 50 ms Switch off (terminals A-C): minimum 35 ms			
Electr. Power consumption	DC	Attraction (hot)	-	13 W	
		Attraction (cold)	-	19 W	
		Release (hot)	-	8 W	
		Release (cold)	-	10 W	
	AC	Attraction (hot)	11 W	-	
		Attraction (cold)	17 W	-	
		Release (hot)	4 W	-	
		Release (cold)	7 W	-	
		Weight		150 g	
		Voltages "Un"		VAC/Hz	Code
-10% to +10% of the Un		24/50-24/60	P0	24	C2
		48/50-48/60	S4	48	C4
		110-115/50-115/60	1P	110	C5
		220-230/50-60	3P		

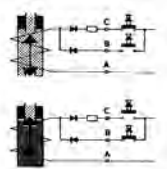
To Order a Coil choose Coil Ref + Voltage Code, example: 485400 for 24VDC = **485400C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

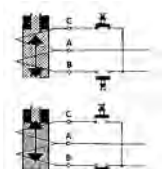
These coils must be used with suitable housings, see examples below:

DIAGRAM

Alternating Current



Direct Current



Only an electrical impulse given to terminals A-C reverses the magnetic field. This magnetic field demagnetises the reversible magnet enough to allow the return spring to bring the plunger back to its initial position and close the valve.

Ref. 4269 - Protection IP 44

Ref. 4538 - Protection IP 67

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COIL GROUP

1.1

ELECTRICAL PARTS
"nc AC"



ZONE 2/22

ELECTRICAL PART LOW POWER 22 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application:

Control of solenoid valves in dangerous areas where explosion-proof protection Ex nc AC IIC T5 is required.

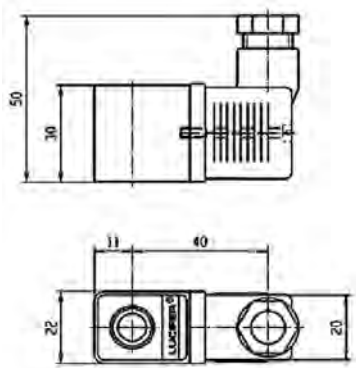
Benefits:

The synthetic material encapsulation of the coil provides an effective compact housing, offering full protection against dust, oil, water, etc. Small size for ease of mounting in confined spaces.



Reference			495865		
Certificate			LCIE 05 ATEX 6003 X		
Coil Group			1.1		
Type of protection		Gas	II 3 G - Ex nc AC IIC T5		
		Dust	II 3 D - Ex tc IIIC - T 95°C		
Degree of protection			IP65 (with plug) according to IEC/EN 60529 Standards		
Ambiant temperature			-40°C to +50°C The application is limited also by the temperature range of the valve.		
Insulation Class			F 155°C		
Electrical connection			These coils with connection 2P + G - when mounted together with the supplied Pg 9 plug (delivered with the coil),		
Elect. Power	DC	Pn (hot)	2.5 W		
		P (cold) 20°C	3 W		
	AC	Pn (holding)	2 W		
		Attraction cold	5.7 VA (2.5 W)		
Weight			120 g		
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		24/50	A2	24	C2
		48/50	A4	48	C4
		110/50-115/50	0A	110	C5
		220/50-230/50	3D		

To Order a Coil choose Coil Ref + Voltage Code, example: 495865 for 24VDC = 495865C2



COIL GROUP

1.2

ELECTRICAL PARTS
"nc AC"

ELECTRICAL PART DOUBLE FREQUENCY 22 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application:

Control of solenoid valves in dangerous areas where explosion-proof protection Ex nc AC IIC T5 is required.

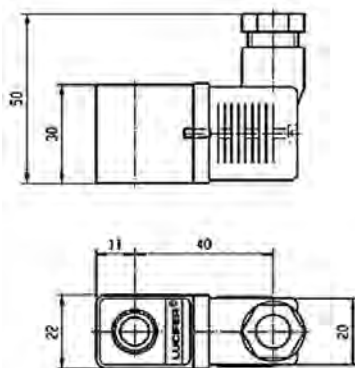
Benefits:

The synthetic material encapsulation of the coil provides an effective compact housing, offering full protection against dust, oil, water, etc. Small size for ease of mounting in confined spaces.



Specification			Double Frequency			
Reference			496637			
Certificate			ATEX			
Coil group			1.2			
Type of protection	Gas	II 3 G - Ex nc AC IIC T5				
	Dust	II 3 D - Ex tc IIIC - T 95°C				
Degree of protection			IP65 (with plug) according to IEC/EN 60529 Sandards			
Ambiant temperature			-20°C to +50°C The application is limited also by the temperature range of the valve.			
Insulation Class			F 155°C			
Elect. Power	DC	Pn (hot)	3 W			
		P (cold) 20°C	-			
	AC	Pn (holding)	3 W			
		Attraction cold	5.7 VA (2.5 W)			
Weight			75 g			
Voltages "Un"			VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			24/50-60	P0	24 V	C2
			110/50-60	P2	48 V	C4
			230/50-60	P9	110 V	C5
			48/50-60	S4		

To Order a Coil choose Coil Ref + Voltage Code, example: 496637 for 24VDC = 496637C2



ELECTRICAL PART 32 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex nc AC IIC T3 to T4 is required.

Ease of mounting in confined space - offers shock and corrosion protection-simplifies conversion of existing equipment to other requirements, etc.

Benefits:

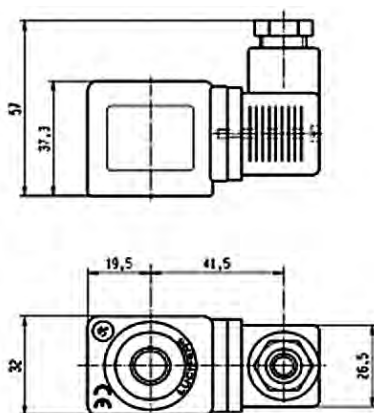
The synthetic material encapsulation of the coil provides an effective compact housing, offering full protection against dust, oil, water, etc.

Small size for ease of mounting in confined spaces.



Reference			495870			496110		
Certificate			LCIE 05 ATEX 6003 X					
Coil Group			2.0 / 2.1					
Type of protection		Gas	II 3 G - Ex nc AC IIC T3 / T4			II 3 G - Ex nc AC IIC T3 / T4		
		Dust	II 3 D - Ex tc IIIC - T195°C / T130°C			II 3 D - Ex tc IIIC - T195°C / T130°C		
Degree of protection			IP65 (with plug) according to IEC/EN 60529 Standards					
Insulation Class			F (155°C)					
Duty cycle			100%					
Ambiant temperature			-40°C to +65°C / 50°C The application is limited also by the temperature range of the valve.					
Elect. Power	DC	Pn (hot)	9 W			-		
		P (cold) 20°C	12 W			-		
	AC	Pn (holding)	8 W			9 W		
		Attraction cold	26 VA (9 W)			32 VA (10 W)		
Weight			150 g					
Voltages "Un"			VAC/Hz	Code	VDC	Code	VAC/Hz	Code
-10% to +10% of the Un			24/50	A2	24	C2	24/50-60	P0
			48/50	A4	48	C4	48/50-60	S4
			110/50	A5	110	C5	110/50-60	S5
			220-230/50	3D			220/50-60	S6

To Order a Coil choose Coil Ref + Voltage Code 495870 24VDC = 495870C2



COIL GROUP

6.0

ELECTRICAL PARTS
"nc AC"

ELECTRICAL PART LOW POWER 32 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex nc AC IIC T5 to T6 is required.

Ease of mounting in confined space - offers shock and corrosion protection-simplifies conversion of existing equipment to other requirements, etc. **Benefits:**

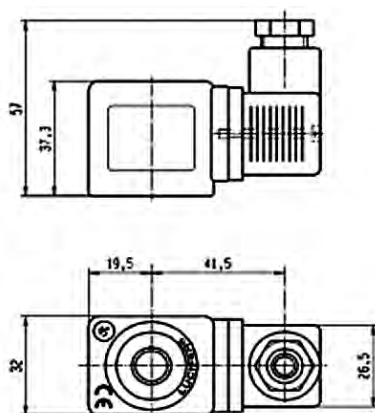
The synthetic material encapsulation of the coil provides an effective compact housing, offering full protection against dust, oil, water, etc.

Small size for ease of mounting in confined spaces.



Reference			496125	
Certificate			LCIE 05 ATEX 6003 X	
Coil group			6.0	
Type of protection	Gas	II 3 G - Ex nc AC IIC T5 / T6		
	Dust	II 3 D - Ex tc IIIC - T80°C /T95°C		
Degree of protection			IP65 (with plug) according to IEC/EN 60529 Standards	
Insulation Class			F (155°C)	
Duty cycle			100%	
Ambiant temperature			-40°C to +65°C / 50°C The application is limited also by the temperature range of the valve.	
Elect. Power	DC	Pn (hot)	1.6 W	
		P (cold) 20°C	2.1 W	
	AC	Pn (holding)	-	
		Attraction cold	-	
Weight			150 g	
Voltages "Un"			VDC	Code
-10% to +10% of the Un			24	C2
			48	C4
			110	C5

To Order a Coil choose Coil Ref + Voltage Code, example: 496125 for 24VDC = 496125C2



ELECTRICAL PART 32 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex nc AC IIC T3 to T4 is required.

Ease of mounting in confined space - offers shock and corrosion protection-simplifies conversion of existing equipment to other requirements, etc.

Benefits:

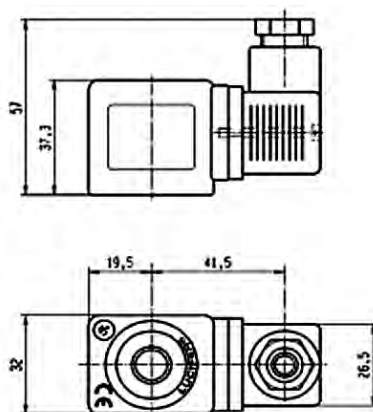
The synthetic material encapsulation of the coil provides an effective compact housing, offering full protection against dust, oil, water, etc.

Small size for ease of mounting in confined spaces.



Specification			32 mm Coil "nc AC"			
Reference			495875			
Certificate			LCIE 05 ATEX 6003 X			
Coil Group			2.0 / 2.1			
Type of protection		Gas	II 3 G - Ex nc AC IIC T3 / T4			
		Dust	II 3 D - Ex tc IIIC - T195°C / T130°C			
Degree of protection			IP65 (with plug) according to IEC/EN 60529 Standards			
Insulation Class			F 155°C			
Duty cycle			100%			
Ambiant temperature			-40°C to +65°C / 50°C The application is limited also by the temperature range of the valve.			
Elect. Power	DC	Pn (hot)	7 W			
		P (cold) 20°C	-			
	AC	Pn (holding)	6 W			
		Attraction cold	-			
Weight			180 g			
Voltages "Un"			VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			220-230/50	3D	24	C2

To Order a Coil choose Coil Ref + Voltage Code, example: 495875 for 24VDC = 495875C2



COIL GROUP

2.0/2.2**NON ENCAPSULATED
ELECTRICAL PARTS
"nc AC"****ELECTRICAL PART 32 mm**

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex nc AC IIC T3 is required.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

Benefits:

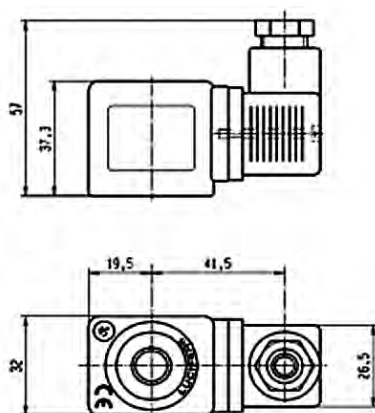
The synthetic material encapsulation of the coil provides an effective compact housing, offering full protection against dust, oil, water, etc.

Small size for ease of mounting in confined spaces.



Specification			32 mm Coil "nc AC"		
Reference			495880		
Certificate			LCIE 05 ATEX 6003X		
Coil Group			2.0 / 2.2		
Type of protection		Gas	II 3 G - Ex nc AC IIC T3		
		Dust	II 3D - Ex tc IIC - T195°C		
Degree of protection			IP65 (with plug) according to IEC/EN 60529 Standards		
Insulation Class			H 180°C		
Duty cycle			100%		
Ambiant temperature			-40°C to +65°C The application is limited also by the temperature range of the valve.		
Elect. Power	DC	Pn (hot)	14 W		
		P (cold) 20°C	-		
	AC	Pn (holding)	14 W		
		Attraction cold	-		
Weight			180 g		
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		24/50	A2	24	C2
		110/50	A5		
		230/50	F4		

To Order a Coil choose Coil Ref + Voltage Code, example: 495880 for 24VDC = 495880C2



INCREASED SAFETY
ELECTRICAL PARTS
"nc AC"

495915 - ELECTRICAL PARTS 50 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection - Ex nc AC IIC T3 is required.

Benefits: Rotatable housing 360°, epoxy varnished steel with internal and external screw terminals for earth connection.

Small size for ease of mounting in confined space. Simplifies conversion of existing equipment to hazardous area requirements.

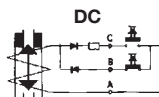
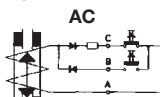


Reference		495915			
Certificate		LCIE 05 ATEX 6010 X			
Coil group		4.0			
Type of protection	Gas	II 3 G - Ex nc AC IIC T3			
	Dust	II 3 D - Ex tc IIC - T 195°C			
Degree of protection		IP67 according to IEC/EN 60529 Standards			
Ambient temperature		-40°C to +65°C The application is limited also by the temperature range of the valve.			
Insulation Class		F 155°C			
Electrical connection		By special cable gland M20 x 1.5 on screw terminals for wires up to 1.5 mm². Cable with outside diameter 6.5 mm to 13.5 mm can be simply sealed using the rubber gland with resilient sealing rings supplied			
Consumation Electrique	AC	Attraction (hot)	11 W	-	
		Attraction (cold) 20°C	17 W	-	
		Release (hot)	4 W	-	
		Release (cold) 20°C	7 W	-	
	DC	Attraction (hot)	-	13 W	
		Attraction (cold) 20°C	-	19 W	
		Release (hot)	-	8 W	
		Release (cold) 20°C	-	10 W	
Weight		320 g			
Duty cycle		Continuous duty solenoid (ED 100%)			
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		110-115/50-60	1P	24	C2
		220-230/50-60	3P	48	C4
		48/50-60	S4		
		24/50-60	P0		

To Order a Coil choose Coil Ref + Voltage Code,

example: 495915 for 24VDC = 495915C2

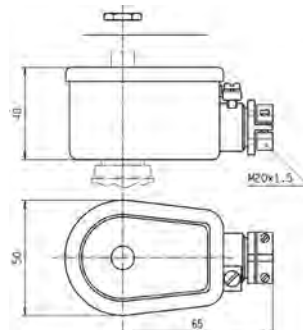
Schema



As soon as an electrical impulse is given to the terminals A-B, the electromagnetical force attracts the plunger and simultaneously magnetizes a reversible permanent magnet ring. This magnet retains the plunger in place. It stays in position even without current. Only an electrical impulse given to terminals A-C reverses the magnetic field. This magnetic field demagnetises the reversible magnet enough to allow the return spring to bring the plunger back to its initial position and close the valve.

Switch: Switch on (terminals A-B): Minimum 50 ms (maximum 1 s)

AC: Switch off (terminals A-C): Minimum 35 ms (maximum 1 s)



COIL GROUP

2.0/2.2**INCREASED SAFETY
ELECTRICAL PARTS
"nc AC"****3.5.1 ELECTRICAL PARTS 496155**

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.

See column "Coil Compatibility Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex nAC IIC T3 is required.

Benefits: Rotatable housing 360°, epoxy varnished steel with internal and external screw terminals for earth connection.

Small size for ease of mounting in confined space. Simplifies conversion of existing equipment to hazardous area requirements.

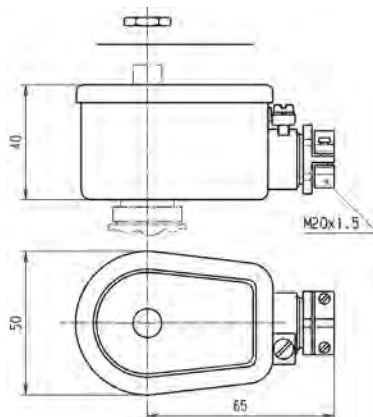


Reference			496155		
Certificate			LCIE 05 ATEX 6010 X		
Coil Group			2.0/2.2		
Type of protection		Gas	II 3 G D - Ex nc AC IIC T3		
		Dust	II 3 G D - Ex tc IIIC - T 195 °C		
Degree of protection			IP67 according to IEC/EN 60529 Standards		
Ambiant temperature			-40°C to +65°C The application is limited also by the temperature range of the valve.		
Insulation Class			F 155°C		
Electrical connection			By special cable gland or M20x1.5 on screw terminals for wires up to 1.5 mm². Cables with outside diameter 6.5 mm to 13.5 mm can be simply sealed using the rubber gland with resilient sealing rings supplied.		
Elect. Power	DC	Pn (hot)	14 W		
		P (cold) 20°C	21 W		
	AC	Pn (holding)	14 W		
		Attraction cold	56 VA (20 W)		
Weight			320 g		
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		24/50	A2	24	C2
		110/50	A5	48	C4
		230/50	F4		

To Order a Coil choose Coil Ref + Voltage Code, example: 496155 for 24VAC/50Hz = 496155A2

Fuses:

Both electrical parts have to be connected in series with a safety fuse according to IEC 60127-3.



COIL GROUP

10.3

FLAMEPROOF
ELECTRICAL PARTS "db"



IECEX
certified

497105 & 497105.02 - ELECTRICAL PARTS

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex db IIC T4 / T5 / T6 is required.

Benefits: Rotatable 360°, stainless steel with internal and external screw terminals for earth connection.

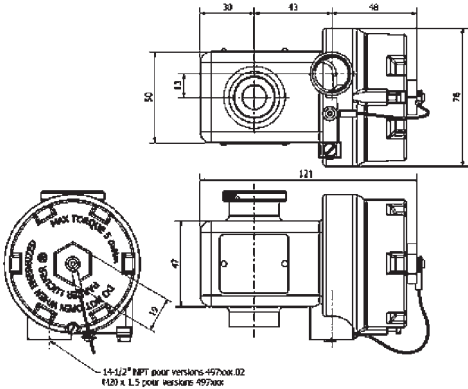
Small size for ease of mounting in confined space. Simplifies conversion of existing equipment to hazardous area requirements.



Reference		497105 (M20x1.5) 497105.02 (NPT 1/2")			
Certificate		INERIS 12ATEX0041X - IECEx INE 12.0034X			
Coil Group		10.3			
Type of protection	Gas	II 2 G - Ex db IIC T4 / T5 / T6			
	Dust	II 2 D - Ex tb IIC - 130°C / 95°C / 80°C			
Degree of protection		IP66 (with relevant cable gland) according to IEC/EN 60529 Standards			
Ambient temperature		-50°C to +80°C / +60°C / +40°C The operating temperature of the valve/coil can be limited by that of the valve			
Insulation Class		F 155°C			
Electrical connection		Electric connection is done in the connection chamber on an easily accessible connector terminals. The cable entry to the connection chamber is made through a 1/2" NPT or M20x1.5 thread in which an approved Exdb IIC cable gland must be installed.			
Electrical consumption	DC	Pn (hot)	8 W		
		P (cold) 20°C	9 W		
	AC	Pn (holding)	8 W		
		Attraction cold	9 W		
Voltage Tolerance		+/- 10% of nominal voltage			
Emergising Cuty		ED 100%			
Voltages		VAC/Hz	Code	VDC	Code
		24/50-60	P0	12	C1
		110-115 / 50-60	1P	24	C2
		220-230 / 50-60	3P	48	C4
				110	C5

To Order a Coil choose Coil Ref + Voltage Code, example: 497105 for 24VDC = 497105C2

Coil delivered with an individual material traceability certificate
(3.1 following EN10204)



COIL GROUP

1.1

ENCAPSULATED
ELECTRICAL PARTS
"mb"IECEx
certified

ELECTRICAL PART LOW POWER 22 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application:

Control of solenoid valves in dangerous areas where explosion-proof protection Ex mb II T4 or T5 is required.

Benefits:

Coil and magnetic circuit encapsulated in synthetic material - offering shock and corrosion protection. AC coils with integrated thermal fuse. Small size for ease of mounting in confined spaces.



Reference		482605		482606 or 482606.160*			
Certificate		LCIE 02 ATEX 6014 X - IECEx LCI 07.0026 X					
Coil Group		1.1					
Type of protection	Gas	II 2 G - Ex mb IIC T4 / T5					
	Dust	II 2 D - Ex tb IIIC - T130°C / 95°C					
Degree of protection		IP65 (with plug) according to IEC/EN 60529 Standards					
Ambiant temperature		-40°C to +65°C / +40°C		-40°C to +65°C / +35°C			
		The application is limited also by the temperature range of the valve.					
Insulation Class		F 155°C					
Electrical connection		Cable connection (3 x 0.75 mm²) encapsulated with coil, cable material according to application					
Elect. Power	DC	Pn (hot)	5 W		2.5 W		
		P (cold) 20°C	6.5 W		3 W		
	AC	Pn (holding)	4 W		2 W		
		Attraction cold	8.9 VA (5 W)		5.7 VA (2.5 W)		
Weight		150 g					
Voltages "Un"		VDC	Code	VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		12	C1	24/50	A2	24	C2
		24	C2	48/50	A4	48	C4
				110/50-115/50	0A	110	C5
				220/50-230/50	3D		

To Order a Coil choose Coil Ref + Voltage Code, example: 482605 for 24VDC = 482605C2

* 482606.160 - 6 m cable length

Fuses:

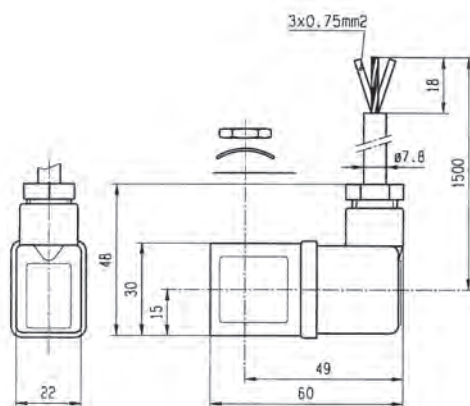
Both electrical parts 482605 & 482606 have to be connected in series with a safety fuse according to CEI 60127-3. Indicating example below:

482605:

DC: 12 V, 1000 mA - 24 V, 500 mA - 48 V, 200 mA - 110 V, 100 mA
AC 50 Hz: 24 V, 500 mA - 48 V, 250 mA - 110/115 V, 100 mA - 220/230 V, 3 mA
AC 60 Hz: 24 V, 630 mA - 110/115 V, 125 mA - 220/230 V, 63 mA

482606:

DC: 12 V, 400 mA - 24 V, 200 mA - 48 V, 100 mA - 110 V, 50 mA
AC 50 Hz: 24 V, 250 mA - 48 V, 125 mA - 110/115 V, 63 mA - 220/230 V, 32 mA
AC 60 Hz: 24 V, 315 mA - 110/115 V, 63 mA - 220/230 V, 32 mA



ENCAPSULATED
ELECTRICAL PARTS
"mb"



ZONE 1/2/1

ELECTRICAL PART 32 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex mb II T4 is required.

Benefits: Coil and magnetic circuit encapsulated in synthetic material offering shock and corrosion protection. AC/DC coils with integrated thermal fuse. DC coils with integrated surge suppression diode.

Small size for ease of mounting in confined spaces. This electrical



Reference			492670			
Certificate			LCIE 02 ATEX 6015 X			
Coil Group			2.0 / 2.1			
Type of protection		Gas	II 2 G - Ex mb IIC T4			
		Dust	II 2 D - Ex tb IIIC - T130°C			
Degree of protection			IP65 (With DIN Plug connector) according to IEC/EN 60529 standards			
Ambiant temperature			-40°C to +40°C The application is limited also by the temperature range of the valve.			
Class of insulation			F 155°C			
Electrical connection			Cable connection (3 x 1.5 mm²) encapsulated with coil, cable material according to application			
Elect. Power	DC	Pn (hot)	9 W			
		P (cold) 20°C	12 W			
	AC	Pn (holding)	8 W			
		Attraction cold	26 VA (9 W)			
Weight			320 g			
Voltages "Un"			VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			48/50	A4	24	C2
			230/50	F4	48	C4
					110	C5

To Order a Coil choose Coil Ref + Voltage Code, example: 492670 for 24VDC = 492670C2

* 492670.3 m cable length

** 492670.160 - 6 m cable length

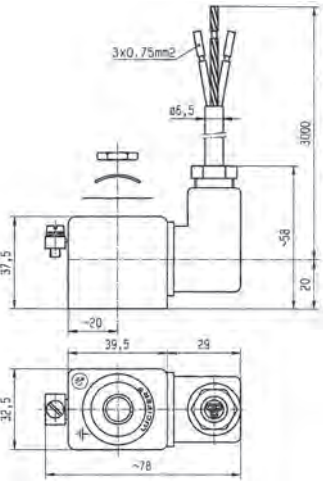
Special conditions:

The supply connection lines have to be fixed and positioned in such a way that they are protected against mechanical damages.

It is necessary to use a safety fuse with a nominal current corresponding to the coil current (max. 3 x nominal according to IEC 60127 and IEC 60269) against short-circuits.

Recommended values:

DC: 12 V, 1250 mA - 24 V, 630 mA - 48 V, 315 mA - 110 V, 125 mA
AC 50 HZ: 24 V, 1000 mA - 48 V, 500 mA - 110 V, 250 mA - 230 V, 100 mA
AC 60 HZ: 240 V, 100 mA



COIL GROUP

2.0/2.1

ENCAPSULATED
ELECTRICAL PARTS
"mb"IECEx
certified

WITH WATER PROOF METAL HOUSING 50 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex mb II T4 or T5 is required.

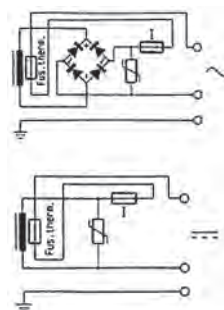
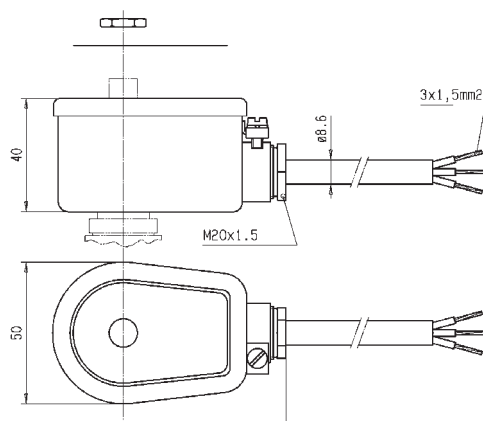
Benefits: Epoxy-vernished steel housing - solenoid coil, rectifier (silicium diodes), fuse and varistor protection element are completely encapsulated in the coil housing by means of epoxy resin.

Small size for ease of mounting in confined space. Simplifies conversion of existing equipment to hazardous area requirements.



Reference		492070 (with 3m cable length) 492070.160 (with 6m cable length)			
Certificate		LCIE 02 ATEX 6017 X - IECEx LCI 09.0024 X			
Coil Group		2.0 / 2.1			
Type of protection	Gas	II 2 G - Ex mb IIC T4/ T5			
	Dust	II 2 D - Ex tb IIIC - T130 / 95°C			
Degree of protection		IP67 according to IEC/EN 60529 standards			
Ambient temperature		-40°C to +65°C / 40°C The application is limited also by the temperature range of the valve.			
Insulation Class		F 155°C			
Electrical connection		Cable connection (3 x 1.5 mm²) with cable gland M20 x 1.5, external earth screw connection.			
Elect. Power	DC	Pn (hot)	8 W		
		P (cold) 20°C	10 W		
	AC	Pn (holding)	9 W		
		Attraction cold	11 W		
Weight		500 g			
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		24/50-60	P0	24	C2
		110/50-60	P2	48	C4
		220/50-60	R5	110	C5
		230/50-60	P9		
		240/50-60	Q1		

To Order a Coil choose Coil Ref + Voltage Code, example: 492070 for 24VDC = 492070C2



ENCAPSULATED
ELECTRICAL PARTS
"mb"IECEx
certified

HZ10 COIL DOUBLE FREQUENCY

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

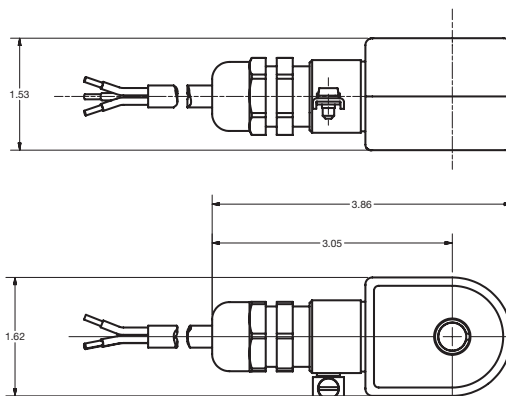
Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex mb II T4 or T5 is required.

The coil is delivered with a 3m cable.



Specification			Double Frequency			
Reference			HZ10			
Certificate			LCIE 02 ATEX 6020 X - IECEx LCI 08.0027 X			
Coil Group			2.0 / 2.1			
Type of protection	Gas		II 2 G - Ex mb IIC T3/T4/T5			
	Dust		II 2 D - Ex tb IIIC T195°C / 130°C / 95°C			
Degree of protection			IP65 (with plug) according to IEC/EN 60529 Standards			
Ambient temperature			-40°C to +80°C / 65°C / 40°C The application is limited also by the temperature range of the valve.			
Insulation Class			H 180°C			
Duty cycle			100% continuous			
Electrical connection			Cable connection (3 x 1.5 mm²) with cable gland M20 x 1.5, external earth screw connection.			
Elect. Power	DC	Pn (hot)	8 W			
		P (cold) 20°C	-			
	AC	Pn (holding)	8 W			
		Attraction cold	-			
Weight			299 g			
Voltages "Un"			VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			110/50-120/60	P3	12	C1
			220/50-240/60	Q3	24	C2
					120	C6

To Order a Coil choose Coil Ref + Voltage Code, example: HZ10 for 24VDC = HZ10C2



Dimensions in Inches.

COIL GROUP

2.0/2.2

ENCAPSULATED
ELECTRICAL PARTS
"mb"IECEx
certified

HZ11 COIL DOUBLE FREQUENCY

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex mb II T4 or T5 is required.

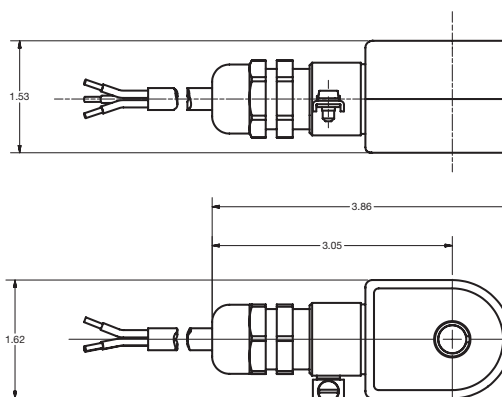
The coil is delivered with a 3m cable.



ZONE 1/21

Specification			Double Frequency			
Reference			HZ11			
Certificate			LCIE 02 ATEX 6020 X - IECEx LCI 08.0027 X			
Coil Group			2.0 / 2.2			
Type of protection		Gas	II 2 G - Ex mb IIC T4/T5			
		Dust	II 2 D - Ex tb IIIc T130°C / 95°C			
Degree of protection			IP65 (with plug) according to IEC/EN 60529 Standards			
Ambient temperature			-40°C to + 65°C / 40°C The application is limited also by the temperature range of the valve.			
Insulation Class			H 180 °C			
Duty cycle			100% continuous			
Elect. Power	DC	Pn (hot)	14 W			
		P (cold) 20°C	-			
	AC	Pn (holding)	14 W			
		Attraction cold	-			
Weight			299 g			
Voltages "Un"			VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			110/50-120/60	P3	24	C2
			220/50-240/60	Q3		

To Order a Coil: Coil Ref + Voltage Code, example: HZ11 for 24VDC = **HZ11C2**



Dimensions in Inches.

COIL GROUPS

6.0

FLAME PROOF ENCAPSULATED
ELECTRICAL PARTS
"db mb"



IECEx
certified

495900 - LOW POWER ELECTRICAL PARTS 37 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex db mb IIC T4 to T6 is required.

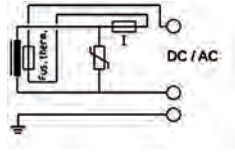
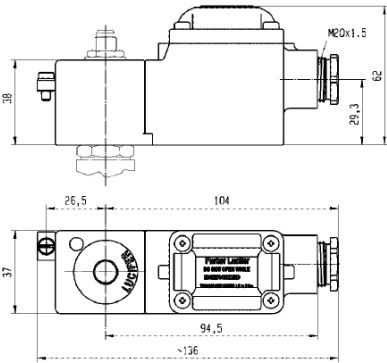
Benefits: Rotatable 360° fibreglass-reinforced plastic housing (class H). Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

The plastic housing is delivered with M20 x 1.5 cable gland certified for use "db" protection. Small size for ease of mounting in confined space.



Reference		495900 VAC		495900 VDC	
Certificate		LCIE 03 ATEX 6451 X - IECEx LCI 06.0004 X			
Coil Group		6.0			
Type of protection	Gas	II 2 G - Ex db mb IIC T4 / T5 / T6		II 2 G - Ex db mb IIC T4 / T5 / T6	
	Dust	II 2 D Ex tb IIIC - 130°C / 95°C / 80°C		II 2 D Ex tb IIIC - T130°C / 95°C / 80°C	
Degree of protection		IP67 according to IEC/EN 60529 Standards			
Ambient temperature		-40°C to +80°C / 55°C / 40°C		-40°C to +80°C / 65°C / 55°C	
		The application is limited also by the temperature range of the valve.			
Class of insulation		H (180 °)			
Electrical connection		Electric connection is done in the connection box on an easily accessible connector terminals. The introduction of the cable (Ø min 5 mm, Ømax. 11 mm, section max. 2.5 mm²) in the connection box passes by the built in M20 x 1.5 cable gland			
Elect. Power	DC	Pn (hot)	-	2 W	
		P (cold) 20°C	-	2.5 W	
	AC	Pn (holding)	2.5 W	-	
		Attraction cold	3 W	-	
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of Un for AC - 10 % to + 10 % for Un DC.		24/50	A2	24	C2
		48/50	A4	48	C4
		115/50	E5	110	C5
		230/50	F4		

To Order a Coil: Coil Ref + Voltage Code495900 24VDC = 495900C2



COIL GROUPS

2.0/2.1

FLAME PROOF ENCAPSULATED
ELECTRICAL PARTS
"db mb"IECEx
certified

495905 - ELECTRICAL PARTS 37 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex db mb IIC T4 is required.

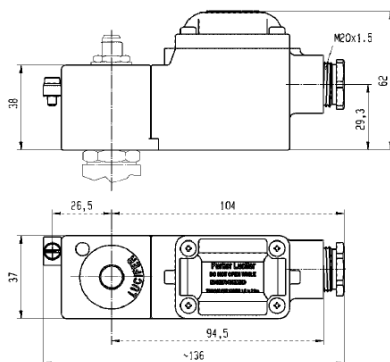
Benefits: Rotatable 360° fibreglass-reinforced plastic housing (class H). Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

The plastic housing is delivered with M20 x 1.5 cable gland certified for use "db" protection. Small size for ease of mounting in confined space.

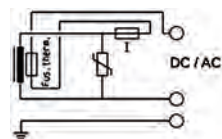


Reference			495905	495905.05		
Certificate			LCIE 03 ATEX 6451 X - IECEx LCI 06.0004 X			
Coil Group			2.0 / 2.1			
Type of protection		Gas	II 2 G - Ex db mb IIC T4			
		Dust	II 2 D - Ex tb IIIC - 130°C			
Degree of protection			IP67 according to IEC/EN 60529 Standards			
Ambient temperature			-40°C to +80°C The application is limited also by the temperature range of the valve.			
Class of insulation			H (180 °)			
Electrical connection			Electric connection is done in the connection box on an easily accessible connector terminals. The introduction of the cable (Ø min 5 mm, Ømax. 11 mm, section max. 2.5 mm²) in the connection box passes by the built in M20 x 1.5 cable gland.			
Elect. Power	DC	Pn (hot)	8 W			
		P (cold) 20°C	9 W			
	AC	Pn (holding)	8 W			
		Attraction cold	9 W			
Voltages "Un"			VAC/Hz	Code	VDC	Code
-10% to +10% of Un for AC - 10 % to + 10 % for Un DC.			24/50	A2	24	C2
			48/50	A4	48	C4
			115/50	E5	110	C5
			230/50	F4		

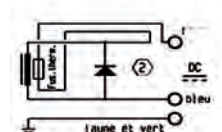
To Order a Coil choose Coil Ref + Voltage Code, example: 495905 for 24VDC = 495905C2



495905



*495905.05



496555 & 496560 - ELECTRICAL PARTS 37 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex db mb IIC T4 to T6 is required.

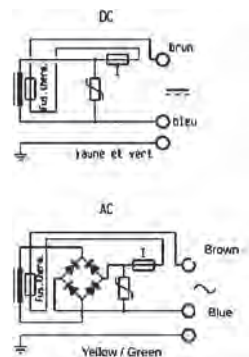
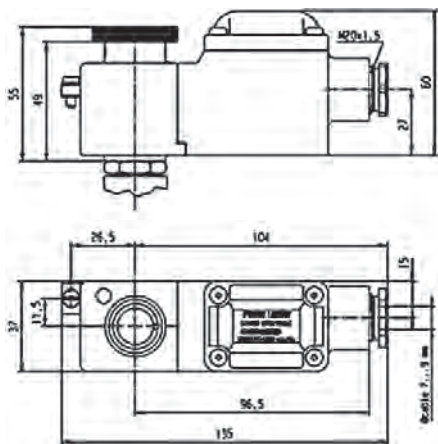
Benefits: Rotatable 360° fibreglass-reinforced plastic housing (class H). Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

The plastic housing is delivered with M20 x 1.5 cable gland certified for use "db" protection. Small size for ease of mounting in confined space.



Reference			496555				496560			
Certificate			LCIE 07 ATEX 6075 X - IECEx LCI 07.0014X							
Coil Group			10.2				10.1			
Type of protection		Gas	II 2 G - Ex db mb IIC T4 / T5 / T6				II 2 G - Ex db mb IIC T4			
		Dust	II 2 D - Ex tb IIIC - T130°C / 95°C / 80°C				II 2 D - Ex tb IIIC - T130°C			
Degree of protection			IP 67 according to IEC/EN 60529 Standards							
Ambiant temperature			-40°C to +65 / 50 / 35°C				-40°C to +65°C			
Class of insulation			The application is limited also by the temperature range of the valve. H (180 °)							
Electrical connection			Electric connection is done in the connection box on an easily accessible connector terminals. The introduction of the cable (Ø min 5 mm, Ømax. 11 mm, section max. 2.5 mm²) in the connection box passes by the built in M20 x 1.5 cable gland.							
Elect. Power	DC	Pn (hot)	-		6 W		-		8 W	
		P (cold) 20°C	-		7.5 W		-		10.5 W	
	AC	Pn (holding)	6 W		-		8 W		-	
		Attraction cold	7.5 W		-		10.5 W		-	
Voltages "Un"			VAC/Hz	Code	VDC	Code	VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			230/50-60	P9	24	C2	230/50-60	P9	24	C2
			110/50-60	P2	48	C4	110/50-60	P2	48	C4
			24/50-60	P0	110	C5	24/50-60	P0	110	C5
			48/50-60	S4			48/50-60	S4		

To Order a Coil choose Coil Ref + Voltage Code, example: 496555 for 24VDC = 496555C2



COIL GROUP

10.2/10.1

FLAME PROOF ENCAPSULATED
ELECTRICAL PARTS
"db mb"



IECEx
certified

496700 & 496800 - ELECTRICAL PARTS 37 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex db mb IIC T4 to T6 is required.

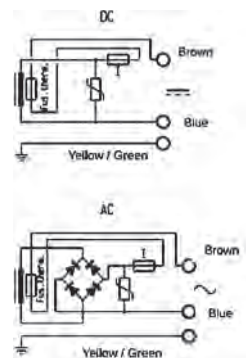
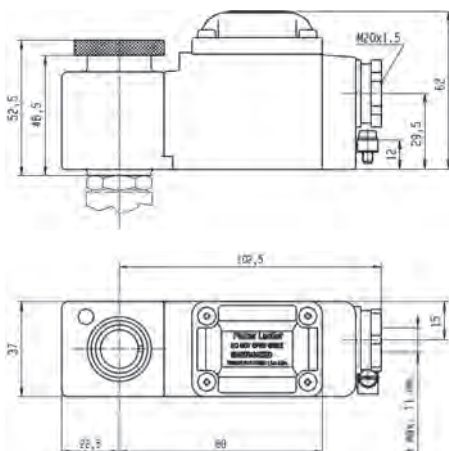
Benefits: Rotatable 360° fibreglass-reinforced plastic housing (class H). Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

The plastic housing is delivered with 1/2" NPT or M20 x 1.5 threaded hole for wide range of cable glands. Small size for ease of mounting in confined space.



Reference			496700 or 496700.02 (NPT)			496800 or 496800.02 (NPT)				
Certificate			LCIE 10 ATEX 3059 X - IECEx LCI 10.0023X							
Coil Group			10.2			10.1				
Type of protection		Gas	II 2 G - Ex db mb IIC T4 / T5 / T6			II 2 G - Ex db mb IIC T4				
		Dust	II 2 D - Ex tb IIIC - T130 / 95 / 80°C			II 2 D - Ex tb IIIC - T130°C				
Degree of protection			IP67 according to IEC/EN 60529 Standards							
Ambiant temperature			-40°C to +35°C / +50°C / +65°C The application is limited also by the temperature range of the valve.			-40°C to +65°C				
Class of insulation			H (180°)							
Electrical connection			Electric connection is done in the connection box passes through a 1/2 NPT or M20x1.5 thread in which a certified Ex dBIIC cable gland must be installed							
Elect. Power	DC	Pn (hot)	-	6 W	-	8 W				
		P (cold) 20°C	-	7.5 W	-	10.5 W				
	AC	Pn (holding)	6 W	-	8 W	-				
		Attraction cold	7.5 W	-	10.5 W	-				
Voltages "Un"			VAC/Hz	Code	VDC	Code	VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			230/50-60	P9	24	C2	230/50-60	P9	24	C2
			110/50-60	P2	48	C4	110/50-60	P2	48	C4
			24/50-60	P0	110	C5	24/50-60	P0	110	C5
			48/50-60	S4			48/50-60	S4		

To Order a Coil choose Coil Ref + Voltage Code, example: 496700 for 24VDC = 496700C2



ZONE 1/21

FLAME PROOF ENCAPSULATED
ELECTRICAL PART
"db mb"

493640 OR HZ09 - ELECTRICAL PARTS

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex db mb II 2 G/D T4 to T5 is required.

Benefits: Metal armature encapsulated in synthetic material provides high shock and corrosion protection.

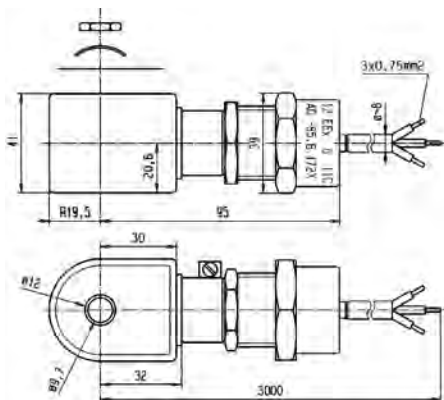
Small size for ease of mounting in confined space.



Reference			493640 493640.60*		
Certificate			LCIE 02 ATEX 6009 X		
Coil Group			2.0 / 2.1		
Type of protection		Gas	II 2 G - Ex db mb T4/T5		
		Dust	II 2 D - Ex tb IIIC - T130°C / T95°C		
Degree of protection			IP65 according to IEC/EN 60529 Standards		
Ambiant temperature			- 40°C to +100°C / +75°C The application is limited also by the temperature range of the valve.		
Class of insulation			F (155 °)		
Electrical connection			Special "Ex db" cable gland, galvanized steel, with EPDM sealing. (EPR) cable, outside diameter 7.3 ± 0.5 mm and 3000 mm long.		
Elect. Power	DC	Pn (hot)	8 W		
		P (cold) 20°C	9 W		
	AC	Pn (holding)	8 W		
		Attraction cold	32 VA (9 W)		
Weight			500 g		
Voltages "Un"		VAC/Hz	Code	VDC	Code
- 15% to +10% of the Un		110-120/50-60	P3	24	C2
		220-240/50-60	Q3	120	C6

To Order a Coil choose Coil Ref + Voltage Code, example: 493640 for 24VDC = 493640C2

* 493640.60 - 6 m cable length



Fuses

This electrical part is equipped with a standard thermal cut-off fuse on all models and voltages

This electrical part must be connected in series with a safety fuse according to IEC 60127-3.

DC: 24V, 400 mA

AC: 110/50-120/60, 200 mA
220/50-240/60, 100 mA
230/50, 95 mA

COIL GROUP

2.0/2.1

INCREASED SAFETY
ELECTRICAL PARTS
"eb"

483371 & 494040 - ELECTRICAL PARTS 50 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex eb IIC T3 or T4 is required.

Benefits: Rotatable housing 360°, epoxy varnished steel with internal and external screw terminals for earth connection.

Small size for ease of mounting in confined space. Simplifies conversion of existing equipment to hazardous area requirements.



ZONE 1/21

Reference			483371			494040				
Certificate			LCIE 02 ATEX 6011 X			LCIE 02 ATEX 6013 X				
Coil Group			2.0 / 2.1							
Type of protection		Gas	II 2 G - Ex eb IIC T4			II 2 G - Ex eb IIC T3 / T4				
		Dust	II 2 D - Ex tb IIIC - T130°C			II 2 D - Ex tb IIIC - T195°C / T130 °C				
Degree of protection			IP67 according to IEC/EN 60529 Standards							
Ambiant temperature			-40°C to +65°C			-40°C to +90°C / to +65°C				
			The application is limited also by the temperature range of the valve.							
Class of insulation			F 155°C			F (180°)				
Electrical connection			By special cable gland or M20 x 1.5 "Ex eb" on screw terminals for wires up to 1.5 mm². Cables with outside diameter 6.5 mm to 13.5 mm can be simply sealed using the rubber gland with resilient sealing rings supplied.							
Elect. Power	DC	Pn (hot)	8 W			8 W				
		P (cold) 20°C	9 W			9 W				
	AC	Pn (holding)	8 W			8 W				
		Attraction cold	32 VA (9 W)			32 VA (9 W)				
Weight			320 g							
Voltages "Un"			VAC/Hz	Code	VDC	Code	VAC/Hz	Code	VDC	Code
-10% to +10% of the Un			24/50	A2	24	C2	220-230/50	3D	24	C2
			48/50	A4	48	C4				
			110-115/50	0A	110	C5				
				3D						

To Order a Coil choose Coil Ref + Voltage Code, example: 483371 for 24VDC = 483371C2

Fuses:

Both electrical parts have to be connected in series with a safety fuse according to IEC 60127-3.

483371:

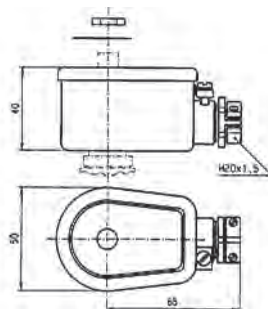
DC: 24 V, 400 mA - 48V, 250 mA - 110 V, 100 mA

AC 50Hz: 24 V, 630 mA - 48V, 315 mA - 110 V, 160 mA - 220/230 V, 80 mA

494040:

DC: 12 V, 400 mA - 24V, 200 mA - 48 V, 100 mA - 110V, 50 mA

AC 50Hz: 24 V, 250 mA - 48V, 125 mA - 110/115 V, 63 mA - 220/230 V, 32 mA



492310 - ELECTRICAL PARTS 50 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex eb mb II T4 to T5 is required.

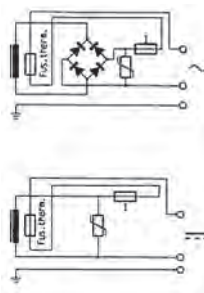
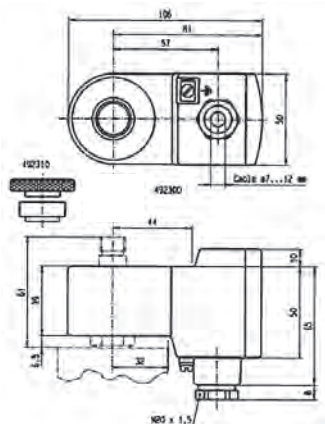
Benefits: Rotatable 360° fibreglass-reinforced plastic housing. Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

Small size for ease of mounting in confined space.



Reference		492310			
Certificate		LCIE 02 ATEX 6023 X - IECEx LCI 06.0011 X			
Coil group		10.1			
Type of protection	Gas	II 2 G - Ex eb mb II T4 / T5			
	Dust	II 2 D - Ex tb IIC - T130°C / T95°C			
Degree of protection		IP66 according to IEC/EN 60529 Standards			
Ambiant temperature		-40°C to +75°C / to +40°C The operating temperature of the valve/coil can be limited by that of the valve			
Class of insulation		F 155°C			
Electrical connection		Connection box with terminals and cable entry via gland M20 x 1.5 - Possibility for additional earth via external screw.			
Elect. Power	DC	Pn (hot)	6 W		
		P (cold) 20°C	7.5 W		
	AC	Pn (holding)	6 W		
		Attraction cold	7.5 W		
Weight		500 g			
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		110/50-60	P2	24	C2
		230/50-60	P9	48	C4

To Order a Coil choose Coil Ref + Voltage Code, example: 492310 for 24VDC = 492310C2



COIL GROUP

9.0

INCREASED SAFETY
AND ENCAPSULATED
ELECTRICAL PARTS "eb mb"IECEX
certified

492210 - ELECTRICAL PARTS "BOOSTER" 50 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection - Ex eb mb IIC T5/T6 is required.

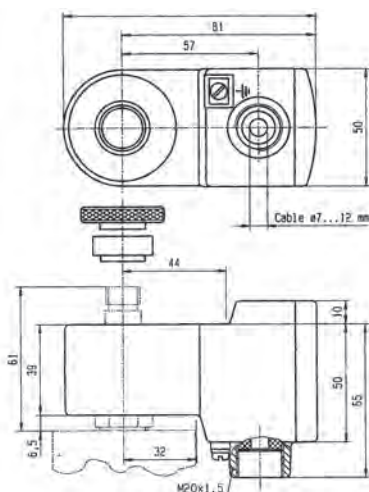
Benefits: Rotatable 360° fibreglass-reinforced plastic housing. Solenoid coil, fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection. Small size for ease of mounting in confined space. Simplifies conversion of existing equipment to hazardous area requirements.

Available only in 24VDC (suffix code : C2)



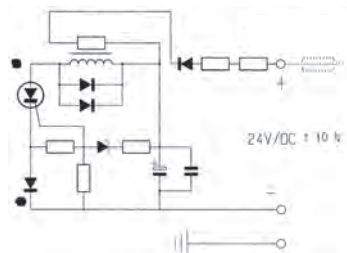
Reference	492210	
Certificate	LCIE 02 ATEX 6023 X - IECEX LCI 06.0011 X	
Coil group	9.0	
Type of protection	Gas	II 2 G - Ex eb mb IIC T5 / T6
	Dust	II 2 D - Ex tb IIIC - T95°C / T80°C
Degree of protection	IP66 according to IEC/EN 60529 Standards	
Ambient temperature	-40°C to +75°C / +40°C The operating temperature of the valve/coil can be limited by that of the valve	
Insulation Class	F 155°C	
Electrical connection	Connection box with terminals and cable entry via gland M20 x 1.5 Possibility for additional earth via external screw	
Power consumption DC	1 to 1.8 W according to length of cable	
Attraction current	I min = 60 mA (I nominal = 75 mA)	
Voltage DC	U nominal = 24 VDC (C2), Umin = 21.6 VDC	
Resistance	23 Ω + (R = 270 Ω)	
Inductance	0 mH	
Capacitance	0 μF	
Response time	2 - 4 s	
Weight	500 g	

To Order a Coil choose Coil Ref + Voltage Code, example: 492210 for 24VDC = 492210C2



Indications:

Booster for Offshore valves



These electrical parts need an external fuse of I = 100 mA

492190 - ELECTRICAL PARTS 50 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex eb mb IIC T3 to T4 is required.

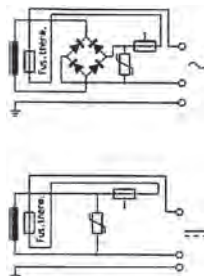
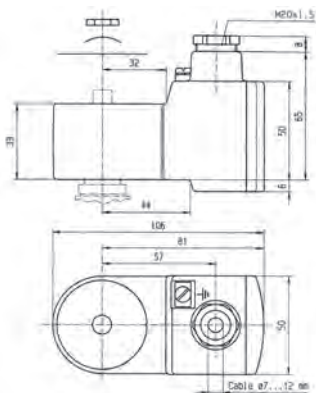
Benefits: Rotatable 360°, fiberglass -reinforced plastic housing. Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

Small size for ease of mounting in confined space.



Reference			492190		
Certificate			LCIE 02 ATEX 6023 X - IECEx LCI 06.0011 X		
Coil Group			2.0 / 2.1		
Type of protection		Gas	II 2 G - Ex eb mb IIC T3 / T4		
		Dust	II 2 D - Ex tb IIIC - 195°C / 130°C		
Degree of protection			IP66 according to IEC/EN 60529 Standards		
Ambient temperature			-40°C to +75°C / +40°C The operating temperature of the valve/coil can be limited by that of the valve		
Insulation Class			F 155°C		
Electrical connection			Connection box with terminals and cable entry via gland M20 x 1.5 Possibility for additional earth via external screw		
Electrical consumption	DC	Pn (hot)	9 W		
		P (cold) 20°C	11 W		
	AC	Pn (holding)	11 W		
		Attraction cold	13 W		
Weight			320 g		
Voltages "Un"		VAC/Hz	Code	VDC	Code
-10% to +10% of the Un		24/50-60	P0	24	C2
		110/50-60	P2	48	C4
		230/50-60	P9	110	C5
		240/50-60	Q1	220	C7

To Order a Coil choose Coil Ref + Voltage Code, example: 492190 for 24VDC = 492190C2



COIL GROUP

7.0

INTRINSICALLY SAFE
ELECTRICAL PARTS
"ia"IECEx
certified

483580 - 483960 ELECTRICAL PARTS 32 mm "IS"

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex ia or ib IIC T6 is required.

Benefits: Fully encapsulated assembly comprising a coil, metal armature, three diodes circuit and DIN plug connection.

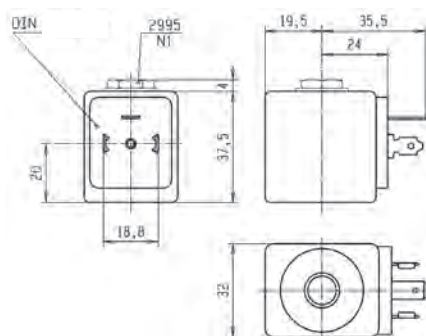
The encapsulation provides an effective compact housing offering full protection against dust, oil, water, etc.

Small size for ease of mounting in confined space. Available only in 28VDC (suffix code : N7)



Reference (without plug) (with plug)		483580.01 483960.01
Certificate		LCIE 02 ATEX 6065 X - IECEx LCI 07.0025 X
Coil Group		7.0
Type of protection	Gas	II 1 G - Ex ia IIC - T6
	Dust	II 1 D - Ex ta IIC - T80°C
Degree of protection		IP65 with plug according to IEC/EN 60529 Standards
Ambient temperature		- 40°C à + 55°C The operating temperature of the valve/coil can be limited by that of the valve.
Class of insulation		F 155°C
Electrical connection		The coil is connected with a 2P + E plug according to EN 175301-803 type A Contact 1 is marked as the positive pole ⊕.
Maximum supply voltage		28 VDC (N7) - 110 mA The minimum operating voltage at maximum 60°C is 14 VDC.
Power	DC	Minimum
		Maximum
		500 mW 3 W
		Depending on applied voltage, IS barrier type and resistance of connected cable
Coil resistance at 20°C		340 Ω
Impedance		340 Ω
Apparent inductance		0 mH
Apparent capacitance		0 μF
Weight		160 g (with plug)

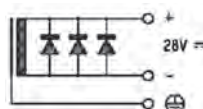
To Order a Coil choose Coil Ref + Voltage Code, example: 483580 for 28VDC = 483580N7



Important

The intrinsically safe supply circuit should have enough capacity in all environmental conditions to assure a **minimum operating current of 35 mA** through the coil.

The minimal holding current is 20 mA.



For the barrier compatibility see the corresponding table in in appendix section.

These coil must be used with suitable housing : **Ref. 2995**

INTRINSICALLY SAFE
ELECTRICAL PARTS
"ia"IECEx
certified495910 - MINIWATT - 0.3 W
ELECTRICAL PARTS "IS" "BOOSTER" 37 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex ia IIC T4 to T6 is required.

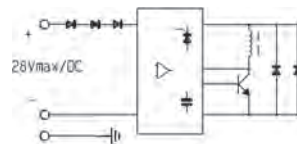
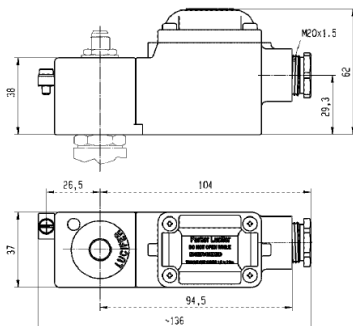
Benefits: Rotatable 360° fibreglass-reinforced plastic housing (class H). Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

The plastic housing is delivered with M20 x 1.5 cable gland. Small size for ease of mounting in confined space. Available only in 28VDC (code : N7)



Reference		495910	495910.02 (Blue Cable Gland)
Certificate		LCIE 03 ATEX 6464 X - IECEx LCI 07.0006 X	
Coil Group		8.0	
Type of protection	Gas	II 1 G - Ex ia IIC - T4 / T5 / T6	
	Dust	II 1 D - Ex ta IIIC T80 / 95 / 130°C	
Degree of protection		IP67 according to IEC/EN 60529 Standards	
Ambient temperature		- 40°C to +80°C / 75°C / 65°C The application is limited also by the temperature range of the valve..	
Class of insulation		H 180°C	
Electrical connection		Electric connection is done in the connection box on an easily accessible connector terminals. The introduction of the cable (Ø min 7 mm, Ømax. 11 mm, section max. 2.5 mm²) in the connection box passes by the built in M20 x 1.5 cable gland	
Maximum supply voltage		28 VDC (N7) - 110 mA	28 VDC (N7) - 280 mA
Power	DC	Minimum 0.3 W (with 13 VDC)	0.3 W (with 13 VDC)
		Maximum 1.2 W (with 24 VDC)	2.58 W (with 24 VDC)
		Depending on applied voltage, IS barrier type and resistance of connected cable	
Line check		4 mA or 5 VDC max	
Coil resistance at 20°C		Charge ~ 550 Ω - Holding ~ 500 Ω	
Impedance		0 mH	
Apparent inductance		0 µF	
Apparent capacitance			
Response time		2 - 3 s	
Weight		500 g	

To Order a Coil choose Coil Ref + Voltage Code, example: 495910 for 28VDC = 495910N7



COIL GROUP

9.0

INTRINSICALLY SAFE
ELECTRICAL PARTS
"ia"IECEx
certified496565 ELECTRICAL PARTS "BOOSTER"
"IS" 37 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex ia IIC T4 to T6 is required.

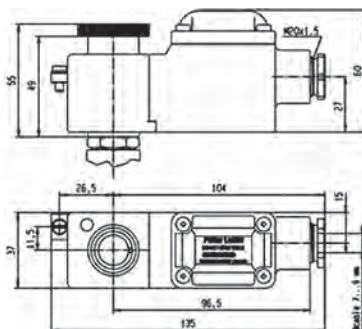
Benefits: Rotatable 360° fibreglass-reinforced plastic housing (class H). Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

The plastic housing is delivered with M20 x 1.5 cable gland. Small size for ease of mounting in confined space. Available only in 28VDC (code : N7)



Reference	496565	
Certificate	LCIE 08 ATEX 6071 X - IECEx LCI 08.0030 X	
Coil group	9.0	
Type of protection	Gas	II 1 G - Ex ia IIC - T4 / T5 / T6
	Dust	II 1 D - Ex ta IIC - T80 / T95 T130°C
Degree of protection	IP67 according to IEC/EN 60529 Standards	
Ambient temperature	- 40°C to +80 / 75 / 65°C	
	The application might also be limited by the temperature range of the valve.	
Electrical connection	Cable connection through a plastic cable gland M20 x 1.5 allowing use of cable diameter from 7 to 12 mm. Additional earth connection possible with external screw terminal.	
Class of insulation	H180°C	
Minimum Current of function	20 mA	
Minimum voltage of function at 60°C	28 VDC (N7)	
Safety parameters	28 V / 110 mA / 0.77 W	28 V / 280 mA / 1.96 W
Maximum acceptable values: Ui (V) / Ii (mA) / Pi (W)	27 V / 120 mA / 0.81 W	27 V / 320 mA / 2.16 W
	26 V / 135 mA / 0.88 W	26 V / 350 mA / 2.27 W
	25 V / 150 mA / 0.94 W	25 V / 390 mA / 2.43 W
	24 V / 170 mA / 1.02 W	24 V / 430 mA / 2.58 W
Line check	4 mA or 5 VDC max	
Apparent Impedance Typ.	Attraction ~ 600 Ω - Holding ~ 570 Ω	
Apparent Inductance	0 mH	
Apparent Capacitance	0 μF	
Response Time Typ.	2 - 4 s	
Weight	500 g	

To Order a Coil choose Coil Ref + Voltage Code,
example: 496565 for 28VDC = **496565N7**



ZONE 0/20

INTRINSICALLY SAFE
ELECTRICAL PARTS
"ia"IECEx
certified492965 ELECTRICAL PART
"BOOSTER" "IS" 50 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex ia or ib IIC T6 is required.

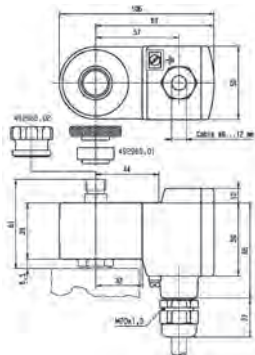
Benefits: Rotatable 360° fibreglass-reinforced plastic housing. Solenoid coil, fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection. Small size for ease of mounting in confined space. Simplifies conversion of existing equipment to hazardous area requirements.

Small size for ease of mounting in confined space. Available only in 28VDC.



Reference		492965.01 - (Stainless steel fixation) 492965.02 - (Plastic fixation)
Certificate		LCIE 02 ATEX 6066 X - IECEx LCI 07.0007 X
Coil Group		9.0
Type of protection	Gas	II 1 G - Ex ia IIC - T6
	Dust	II 1 D - Ex ta IIIC - T80°C
Degree of protection		IP66 according to IEC/EN 60529 Standards
Ambient temperature		- 40°C to +65°C The application is limited also by the temperature range of the valve.
Electrical connection		Cable connection through a plastic or stainless steel cable gland M20 x 1.5 allowing use of cable diameter from 10 to 12 mm. Additional earth connection possible with external screw terminal.
Class of insulation		H180°C
Maximum supply voltage		28 VDC (N7) - 110 mA
Power	DC	0.3 W (with 13 VDC)
	Maximum	2.3 W (with 24 VDC)
		Depending on applied voltage, IS barrier type and resistance of connected cable
Line check		4 mA or 5 VDC max
Coil resistance at 20°C		85 Ω
Impedance		275 Ω (with 13 VDC) - 260 Ω (with 24 VDC)
Apparent inductance		0 mH
Apparent capacitance		0 μF
Response time		2 - 4 s
Weight		500 g

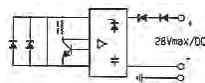
To Order a Coil choose Coil Ref + Voltage Code, example: 492965.01 for 28VDC = 492965.01N7



Important

The intrinsically safe supply circuit should have enough capacity in all environmental conditions to assure a **minimum operating current of 29 mA** through the coil.

The minimal holding current is 20 mA.



For the barrier compatibility see the corresponding table in appendix section.

COIL GROUP

12.0

INTRINSICALLY SAFE
ELECTRICAL PARTS
"ia"482870.01 & 492335 "NEMA"
ELECTRICAL PARTS "IS" 50 mm

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.
See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where an explosion-proof protection Ex ia IIC or IIB T6 is required.

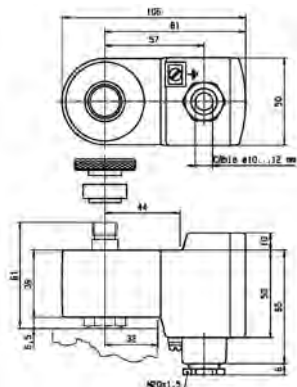
Benefits: Rotatable 360° housing, polyamid with fibreglass housing and cover. Coil, electronic circuits and other elements required for intrinsic safety are completely encapsulated in the housing with epoxy material for shock and corrosion protection.

Small size for ease of mounting in confined space.



Reference			482870.01
Certificate			LCIE 02 ATEX 6024 X
Coil Group			12.0
Type of protection	Gas	II 1 G - Ex ia IIC - T6	
	Dust	II 1 D - Ex ta IIIC - T80°C	
Degree of protection			IP66 according to IEC/EN 60529 Standards
Ambiant temperature			- 40°C to +65°C The application is limited also by the temperature range of the valve.
Class of insulation			H180°C
Electrical connection			Cable connection through a stainless steel cable gland M20 x 1.5 allowing use of cable diameter from 10 to 12 mm. Additional earth connection possible with external screw terminal.
Maximum supply voltage			28 VDC (N7) - 110 mA
Power	DC	Minimum	300 mW
		Maximum	3 W
			Depending on applied voltage, IS barrier type and resistance of connected cable
Coil resistance at 20°C			295 Ω
Impedance			345 Ω
Apparent inductance			0 mH
Apparent capacitance			0 μF
Weight			500 g

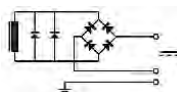
To Order a Coil choose Coil Ref + Voltage Code, example: 482870.01 for 28VDC = **482870.01N7**



Important

The intrinsic safety supply circuit must have sufficient capacitance in all ambient conditions to guarantee a minimum operating current in excess of **29 mA** across the coil.

The minimum current for holding in the energised position is 20 mA



For the barrier compatibility see the corresponding table in appendix section.

488650.01 & 490885 "NEMA" ELECTRICAL PARTS "IS" 50 mm

This coil can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex ia or ib IIC T6 is required.

Benefits: Rotatable 360° housing, polyamid with fibreglass housing and cover. Coil, electronic circuits and other elements required for intrinsic safety are completely encapsulated in the housing with epoxy material for shock and corrosion protection.

Small size for ease of mounting in confined space.



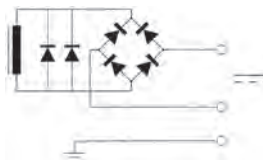
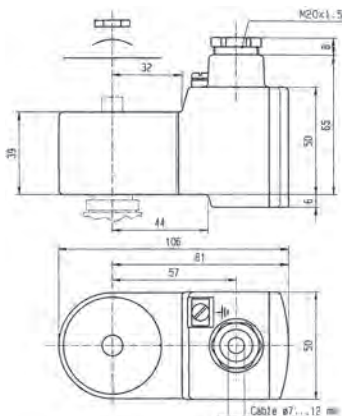
Reference		488650.01
Certificate		LCIE 02 ATEX 6024 X
Coil Group		7.0
Type of protection	Gas	II 1 G - Ex ia IIC - T6
	Dust	II 1 D - Ex ta IIIC - T80°C
Degree of protection		IP66 according to IEC/EN 60529 Standards
Ambiant temperature		- 40°C to +65°C The operating temperature of the valve/coil can be limited by that of the valve.
Electrical connection		Cable entry through a cable gland M20 x1.5. Screw terminals for leads 3 x 1.5 mm² max. Additional earth connection possible with external screw terminal
Class of insulation		H180°C
Maximum supply voltage		28 VDC (N7) - 110 mA The minimum operating voltage at maximum 60°C is 11.5 VDC.
Power	DC	Minimum Maximum
		300 mW 3 W
		Dependent on the applied voltage, type of barrier IS and the resistance of the connected cable
Coil resistance at 20°C		295 Ω
Impedance		345 Ω
Apparent inductance		0 mH
Apparent capacitance		0 µF
Weight		500 g

To Order a Coil choose Coil Ref + Voltage Code, example: 4488650.01 for 30VDC = 4488650.01L8

Important

The intrinsically safe supply circuit should have enough capacity in all environmental conditions to assure a **minimum operating current of 29 mA** through the coil.

The minimal holding current is 20 mA.



For the barrier compatibility see the corresponding table in appendix section.

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COIL APPENDICES

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Table of voltage codes for coils and electrical parts	310

COIL STANDARD HOUSING WITH SCREW TERMINALS

Standard housing:

Reference:	4270
Material:	Epoxy varnished steel with cathaphoresis traitement
Degree of protection:	IP according to IEC/EN 60529 IP 10 with armoured conduit IP 44 with cable gland
Electrical connection:	Can be made with armoured conduit or cable gland M12x1.5. Parts No. 495740 (cable gland M12x1.5) and 484093 to be ordered separately. Grounding connection by screw M3 on the inside of housing base plate.
Weight:	120 g



Benefits:

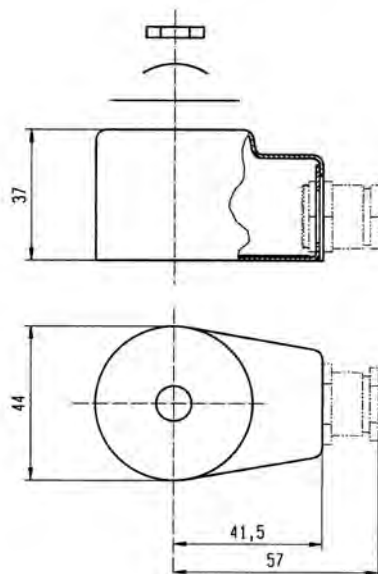
This metal housing offers the ideal protection against shocks and corrosion- rotatable 360° - easy mounting in confined spaces - single-nut mounting - light weight - simplifies conversion of existing equipment to other requirements.

Application:

The majority of the valves can be fitted with this standard housing, and can be mounted with several compatible coils group.

Compatible coils:

- **481000 - Standard Coil**
8 W Class F (155°C)
- **483520 - Double-Frequency Coil**
9 W Class F (155°C)
- **481044 - Standard High-Power Coil**
14 W Class F (155°C)
- **485100 - Standard High-Temperature Coil**
8 W Class H (180°C)
- **486265 - High-Temperature and High-Power Coil**
14 W Class H (180°C)



HOUSING

4269**HOUSING FOR BISTABLE
(IMPULSE) COILS****Housing for bistable coil:**

Reference:	4269
Material:	Epoxy vernished steel
Degree of protection:	IP according to IEC/EN 60529 IP 10 with armoured conduit IP 44 with cable gland
Electrical connection:	Can be made with armoured conduit or cable gland M12x1.5. Parts No. 484092 and 484093 to be ordered separately. Grounding connection by screw M3 on the inside of housing base plate.
Weight:	120 g

**Benefits:**

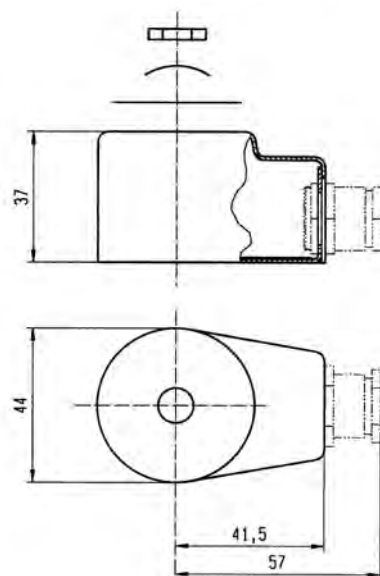
This metal housing offers the ideal protection against shocks and corrosion- rotatable 360° - easy mounting in confined spaces - single-nut mounting - light weight - simplifies conversion of existing equipment to other requirements.

Application:

This housing is specially designed for group 706 coils and can be mounted only with valves controlled by electrical impulses.

Compatible coils:

- **484990 - Impulse coil for AC**
11 W Class F (155°C)
- **485400 - Impulse coil for DC**
13 W Class F (155°C)



WATERPROOF AND DUSTPROOF HOUSING

Waterproof housing:

Reference:	4538
Material:	Epoxy varnished steel
Degree of protection:	IP according to IEC/EN 60529 IP 67 with cable gland
Electrical connection:	Cable connection by cable gland M12x1.5 according to DIN 46320. Cable with outer diameter 6.5 - 13.5 mm can be simply sealed using a rubber gland with resilient sealing rings. The enclosure is internally and externally fitted with grounding and earthing screw terminals.
Weight:	180 g



Benefits:

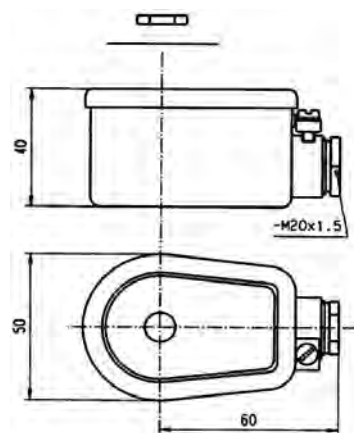
This enclosure is dust- and waterproof. It corresponds to the degree of "International Protection" IP 67 according to IEC / EN 60529. Corrosion resistant, the metal housing offers good protection for the coil against shocks and other outside influences - rotatable 360° - easy mounting in confined spaces - easy access to the screw terminals - single-nut mounting - light weight - simple conversion of existing electrical equipment to other requirements without interruption of fluid passage in the valve.

Application:

This housing can be equipped with several coils of our programme, like the standard, double-frequency and magnetic latch coils.

Compatible coils:

- 481000 - Standard Coil
8 W Class F (155°C)
- 483520 - Double-Frequency Coil
9 W Class F (155°C)
- 484990 - Impulse Coil for AC
11 W Class F (155°C)
- 485400 - Impulse Coil for DC
13 W Class H (180°C)



HOUSING

8520**WATERPROOF HOUSING
FOR HIGH-TEMPERATURE COILS****Waterproof housing:**

Reference:	8520
Material:	Epoxy vernished steel
Degree of protection:	IP according to IEC/EN 60529 IP 67 with cable gland
Electrical connection:	Cable connection by cable gland M12x1.5 according to European standards. Cable with outer diameter 6.5 - 13.5 mm can be simply sealed using a rubber gland with resilient sealing rings. The enclosure is internally and externally fitted with grounding and earthing screw terminals.
Weight:	180 g

**Benefits:**

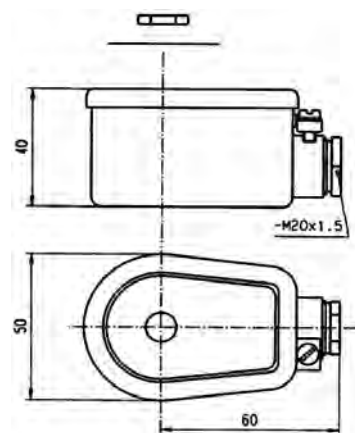
This enclosure is dust- and waterproof. It corresponds to the degree of "International Protection" IP 67 according to IEC / EN 60529. Corrosion resistant, the metal housing offers good protection for the coil against shocks and other outside influences - rotatable 360° - easy mounting in confined spaces - easy access to the screw terminals - single-nut mounting - light weight - simple conversion of existing electrical equipment to other requirements without interruption of fluid passage in the valve.

Application:

The majority of the valves can be fitted with this housing and can be mounted with several compatible coils for high temperature (14 W, 8 W Class F or H).

Compatible coils:

- **481044 - High Power Coil**
14 W Class F (155°C)
- **486265 - High Power Coil**
14 W Class H (180°C)
- **485100 - Coil for High Temperature**
8 W Class H (180°C)



22 mm

32 mm

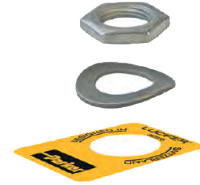
COIL ASSEMBLY KITS

COIL ASSEMBLY KIT FOR 22 mm COIL

The coil assembly kit corresponds to the numbering system for valve housings (Valve - housing - coil/voltage).

It is composed of a nameplate with the details of the valve type, a washer and a nut to secure the 22 mm coil to the valve.

Caution: these coil assembly kits for 22 mm coils are not adapted for high flow valves, ask your distributor for the adapted kit.

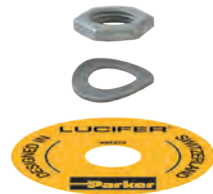


Reference	Specification	Application
8993	Standard - aluminium nameplate - passivated washer and nut - pressure indication in [bar]	Standard valves
8993.03	Standard - aluminium nameplate - passivated washer and nut - pressure indication in [psi]	Standard valves
8122	Special - aluminium nameplate - stainless steel washer and nut - pressure indication in [psi]	316L St. Steel Valves
8567	Special - knurled flat aluminium nut	Valves- series 321K3...

COIL ASSEMBLY KIT FOR 32 mm COIL

The coil assembly kit corresponds to the "housing" of valve numbering system (Valve - housing - coil/voltage).

It is composed of a nameplate giving details of the valve type, a round washer and a nut to ensure the fixing between 32 mm coil and the valve.



Reference	Specification	Application
2995	Standard - Aluminium nameplate - Passivated iron washer and nut - Pressure indication in [bar]	Standards valves
2995.03	Standard - Aluminium nameplate - Passivated iron washer and nut - Pressure indication in [psi]	UL / CSA valves
8132	Special - Aluminium nameplate - Stainless steel washer and nut - Pressure indication in [psi]	316L St. Steel valves
2161	Special - Aluminium nameplate - Passivated iron washer and nut - Pressure indication in [bar]	Transportation valves
2168	Special AD Blue - Aluminium nameplate - Passivated iron washer and nut - Pressure indication in [bar]	Transportation valves
2169	Special AD Blue - Aluminium nameplate - Passivated iron washer and nut - Pressure indication in [bar]	Transportation valves

ACCESSORIES

DIN PLUG CONNECTOR ACCORDING TO EN 175301-803 -B

No. 481043 for Parker coil
No. 600040 for Parker coil

Electrical connection suitable for all 22 mm coils
(e.g. 488980, 481180)



DIN PLUG CONNECTOR ACCORDING TO EN 175301-803 - A

No. 486586 for standard Parker version
No. 492645 for high temperature Parker version
No. 600004 for Parker version

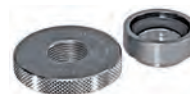
Electrical connection suitable for all 32 mm coils
(e.g. 481865, 492425)



METALIC ASSEMBLY KIT

Nut No. 482213 M14 x 1+ Ring No. 482214 +
O-Ring No. 483917

Coil assembly kit for offshore electrical parts
(e.g. 482870.01, 492210, 492965.01, 496565, 496700)



CABLE GLAND

No. 493426 - 1/2"-14 NPT

Electrical connection and mooring cable with 6 to 12 mm diameter,
for flameproof approved electrical parts
(e.g. 493640)





GUIDANCE CHART FOR IS-BARRIERS

Manufacturer	Reference	Ex	IS Standard Electrical Parts							IS Booster Electrical Parts		
			Ex Ia IIC T6 488650.01/02 488660.01 LCIE/AUS	Ex Ia IIC T6 490885 (490895) LCIE/FM/CSA	Ex Ia IIC T6 483580.01/03 483960.01/03 LCIE/AUS	Ex Ia 490880 (493997) LCIE/FM/CSA	Ex Ia IIB T6 482160.01 LCIE	Ex Ia IIC T6 482870.01 LCIE	Ex Ia 492335 LCIE/FM/CSA	Ex Ia IIC T6 492965.01/02 LCIE	Ex Ia IIC T6 496565 LCIE	Ex Ia IIC T6 495910 LCIE
A puissance 3	NAEV 22-140	Ia	●	-	●	-	●	●	-	●	●	●
	NAEV 26-100	Ia	●	-	●	-	●	●	-	●	●	●
ABB	V171132-54	ib	●	-	●	-	●	●	-	●	●	●
	V171132-55	ib	●	-	-	-	●	●	-	●	●	●
	V171132-61	Ia	●	-	-	-	●	●	-	●	●	●
	DO 890	ib	●	-	●	-	●	●	-	●	●	●
	S900-D04-EX	ib	●	-	●	-	●	●	-	●	●	●
BRADLEY	FEX-EX 24V	Ia	●	●	●	●	●	●	-	●	●	●
COOPER	LB 2101	Ia	●	●	●	●	●	●	●	●	●	●
	LB 2105	Ia	●	●	●	●	●	●	●	●	●	●
	LB 2112	Ia	●	●	●	●	●	●	●	●	●	●
ELCON	1881 / 1882	Ia	●	●	●	●	●	●	●	●	●	●
	471 / 472	Ia	●	●	●	●	●	●	●	●	●	●
	2871/2872	Ia	●	●	●	●	●	●	●	●	●	●
	2874/2875/2876	Ia	●	●	●	●	●	●	●	●	●	●
GEORGIN	AVB 122	Ia	●	-	●	-	●	●	-	●	●	●
	AVB 125	Ia	●	-	●	-	●	●	-	●	●	●
	AVB 128	Ia	●	-	●	-	●	●	-	●	●	●
Hima	F3328A	ib	●	-	●	-	●	●	-	●	●	●
	F3335	ib	●	-	-	-	●	●	-	●	●	●
	H4007	ib	●	-	●	-	●	●	-	●	●	●
MTL	728P, 7128P, 7728P	Ia	-	-	-	-	●	-	-	●	●	●
	728, 7028, 7128, 7728	Ia	●	●	●	●	●	●	●	●	●	●
	3021, 4021, 4021S	Ia	●	-	●	-	●	●	-	●	●	●
	3022	Ia	-	-	-	-	●	-	-	-	-	-
	4023	Ia	-	-	-	-	●	-	-	-	-	-
	4024	Ia	●	-	●	-	●	●	-	●	●	●
	4025	Ia	●	●	●	●	●	●	●	●	●	●
	5021, 5023, 5024	Ia	●	-	●	-	●	●	-	●	●	●
	5025	Ia	●	-	●	-	●	●	●	●	●	●
	4521 / 4523 / 4524	Ia	●	-	-	-	●	●	●	●	●	●
	5521 / 5523 / 5524	Ia	●	-	-	-	●	●	●	●	●	●
	Z 728	Ia	●	●	●	●	●	●	●	●	●	●
	Z 779	Ia	●	●	●	●	●	●	●	●	●	●
	EGA-041-3	Ia	-	●	●	●	●	●	●	●	●	●
Pepperl & Fuchs	KFD2-SD-EX1.36	Ia	-	-	-	-	-	●	-	-	-	-
	KFD2-SL-EX1.36	Ia	-	-	-	-	-	●	-	-	-	-
	KFD2-SD-EX1.48	Ia	-	●	-	●	-	●	●	●	●	●
	KFD2-SL-EX1.48	Ia	-	●	-	●	-	●	●	●	●	●
	KFD2-SL- EX1.48.90A	Ia	-	-	-	-	-	-	-	●	●	●
	KFD2-SL- EX1.48.90A	Ia	-	-	-	-	-	-	-	●	●	●
	KFD2-SL2-EX1.LK	Ia	-	●	-	●	-	●	●	●	●	●
	KFD2-SL2-EX2	Ia	-	●	-	●	-	●	●	●	●	●
	KSD2-BO-EX	Ia	-	●	●	●	●	●	●	●	●	●
	RSD-BO-EX4	ib	-	●	-	●	-	●	●	●	●	●
	RSD-VO-EX8	ib	-	-	-	-	-	-	-	●	●	●



GUIDANCE CHART FOR IS-BARRIERS

Manufacturer	Reference	Ex	IS Standard Electrical Parts							IS Booster Electrical Parts		
			Ex ia IIC T6 488650.01/02 488660.01 LCIE/AUS	Ex ia IIC T6 490885 (490895) LCIE/FM/CSA	Ex ia IIC T6 483580.01/03 483960.01/03 LCIE/AUS	Ex ia 490880 (493997) LCIE/FM/CSA	Ex ia IIB T6 482160.01 LCIE	Ex ia IIC T6 482870.01 LCIE	Ex ia 492335 LCIE/FM/CSA	Ex ia IIC T6 492965.01/02 LCIE	Ex ia IIC T6 496565 LCIE	Ex ia IIC T6 495910 LCIE
SIEMENS	5RD00-0AB0	ib	-	-	-	-	-	-	-	●	-	-
	7RD00-0AB0	ia	-	-	-	-	-	-	-	●	●	●
	7RD01-0AB0	ia	-	-	-	-	-	-	-	●	●	●
	7RD10-0AB0	ia	-	-	-	-	-	-	-	●	●	●
	7RD11-0AB0	ia	-	-	-	-	-	-	-	●	●	●
	7RD20-0AB0	ia	-	-	-	-	-	-	-	●	●	●
	7RD21-0AB0	ia	-	-	-	-	-	-	-	●	●	●
STAHL	9001/01-252-100-14	ia	●	●	27 V	27 V	●	●	●	●	●	●
	9001/01-280-100-10	ia	●	●	24 V	24 V	●	●	●	●	●	●
	9001/01-280-110-10	ia	●	-	24 V	-	●	●	-	●	●	●
	9002/13-280-100-04	ia	24 V	24 V	27 V	27 V	24 V	24 V	24 V	17 V	17 V	17 V
	9311/52-11-10	ia	-	●	●	25 V	25 V	●	●	15 V	15 V	15 V
	9111/63-11-00	ia	-	●	●	25 V	25 V	●	●	15 V	15 V	15 V
	9351/10-15-10	ia	-	●	●	-	-	●	●	●	●	●
	9351/10-16-10	ia	-	●	●	●	-	●	●	●	●	●
	9351/10-17-10	ia	-	-	-	-	-	●	-	-	-	-
	9381/10-187-050-10	ib	-	●	●	●	●	●	●	●	●	●
	9381/10-246-055-10	ib	-	●	●	●	●	●	●	●	●	●
	9381/10-246-070-10	ib	-	●	●	●	●	●	●	●	●	●
	9465/12-04-11	ib	-	●	●	-	-	●	●	●	●	●
	9475/12-04-21	ia/lb	-	●	-	●	-	●	●	●	●	●
	9475/12-04-31	ia/lb	-	-	-	-	-	-	-	●	●	●
	9475/12-08-41	ia/lb	-	-	-	-	-	-	-	-	-	-
	9475/12-08-51	ib	-	-	-	-	-	-	-	●	●	●
	9475/12-08-61	ia/lb	-	-	-	-	-	-	-	-	●	●
Turck	MK72-S01-EX	ib	-	-	-	-	●	●	-	●	●	●
	MK72-S02-EEX	ib	-	-	-	-	●	●	-	●	●	●
	MK72-S04-EEX	ib	●	-	●	-	●	●	-	●	●	●
	MK72-S05-EEX	ib	●	-	-	-	●	●	-	●	●	●
	MK72-S06-EEX	ib	●	-	●	-	●	●	-	●	●	●
	MK72-S07-EEX	ib	●	-	-	-	●	●	-	●	●	●
	MK72-S09-EEX	ia	-	-	-	-	-	-	-	-	-	-
	MK72-S12-EEX	ia	●	-	●	-	●	●	-	●	●	●
	MC72 - 41	ia	●	-	●	-	●	●	-	●	●	●
	MC72 - 43	ia	●	-	●	-	●	●	-	●	●	●
	MC72 - 44	ia	-	-	-	-	-	-	-	●	●	●
BARTEC	07-7331-2301/1000	ia	●	-	-	-	●	●	-	●	-	-
	07-7331-2301/1100	ia	●	-	●	-	●	●	-	●	-	-

If barrier reference not listed, consult factory for compatibility (tech.support.fcse@parker.com)

TABLE OF VOLTAGE CODES FOR COILS AND ELECTRICAL PARTS

This table is showing the most commonly used voltage codes, for other voltages, please ask us.

VOLTAGE CODES			C1	C2	N7	L8	C4	C5	C7	P1	A5	0A	S5	P2	1P	6J	0P	P3	K8
Coil	Group	Sub-Group	12 DC	24 DC	28 DC	30 DC	48 DC	110 DC	220 DC	100/50-60	110/50	110-115/50	110-115/50 120/60	110/50-60	110-115/50-60	110-115/60	100/50-115/60	110/50-120/60	115/60
481180	1.1	-	•	•								•							
482605	1.1	-	•	•															
482606	1.1	-	•	•			•	•				•							
483590	1.1	-											•						
488980	1.1	-	•	•			•	•				•				•			
492912	1.1	-		•															
496131	1.2	-	•	•			•	•						•					•
496482	1.2	-	•	•			•	•						•					•
496637	1.2	-	•	•			•							•					•
481000	2.0	2.1	•	•			•	•	•			•				•			
481865	2.0	2.1	•	•			•	•			•								•
483371	2.0	2.1	•	•			•	•	•			•				•			
483510	2.0	2.1											•						
483520	2.0	2.1																	
485100	2.0	2.1		•	•				•										
488553	2.0	2.1																	
491514	2.0	2.1		•														•	
492070	2.0	2.1	•	•			•	•						•					
492190	2.0	2.1	•	•			•	•	•					•					
492453	2.0	2.1	•	•			•	•			•								
492670	2.0	2.1	•	•			•	•			•								
493640	2.0	2.1		•			•				•							•	
494040	2.0	2.1		•					•			•							
495870	2.0	2.1		•			•	•			•								
495875	2.0	2.1		•															
495905	2.0	2.1		•			•	•											•
496081	2.0	2.1	•	•									•						
496110	2.0	2.1											•						
HZ10	2.0	2.1																•	

A1	P6	S2	A7	B7	R5	3D	7J	3P	4K	Q3	S6	F4	J3	P9	A2	B2	P0	B8	Q1	A9	5P	A4	S4
12/50	200/50-60	200-230/60	220/50	220/60	220/50-60	220-230/50	220-230/60	220-230/50-60	220-240/60	220/50-240/60	220-240/50	230/50	230/60	230/50-60	24/50	24/60	24/50-60	240/60	240/50-60	380/50	380/50-440/60	48/50	48/50-60
						•									•								
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TABLE OF VOLTAGE CODES FOR COILS AND ELECTRICAL PARTS

This table is showing the most commonly used voltage codes, for other voltages, please ask us.

VOLTAGE CODES			C1	C2	N7	L8	C4	C5	C7	P1	A5	0A	S5	P2	1P	6J	0P	P3	K8
Coil	Group	Sub-Group	12 DC	24 DC	28 DC	30 DC	48 DC	110 DC	220 DC	100/50-60	110/50	110-115/50	110-115/50 120/60	110/50-60	110-115/50-60	110-115/60	100/50-115/60	110/50-120/60	115/60
481044	2.0	2.2									•						•		
486265	2.0	2.2	•	•			•				•						•		
492425	2.0	2.2	•	•							•								
495880	2.0	2.2		•							•								
496155	2.0	2.2		•			•				•								
HZ11	2.0	2.2	•	•			•											•	
482730	3.0	-		•			•				•								•
484990	4.0	-													•				
485400	4.0	-	•	•			•	•											
495915	4.0	-		•			•								•				
482740	6.0	-		•			•	•											
495900	6.0	-	•	•			•	•											•
496125	6.0	-		•			•	•											
483580.01	7.0	-			•														
488650.01	7.0	-			•														
495910	8.0	-			•														
492210	9.0	-		•															
492965.01	9.0	-			•														
496565	9.0	-			•														
492310	10.1	-	•	•			•	•	•					•					
496560	10.1	-		•			•												
496800	10.1	-		•			•												
496895	10.1	-		•			•												
496555	10.2	-		•			•												
496700	10.2	-		•			•												
497105	10.3	-	•	•			•	•							•				

[illegible]

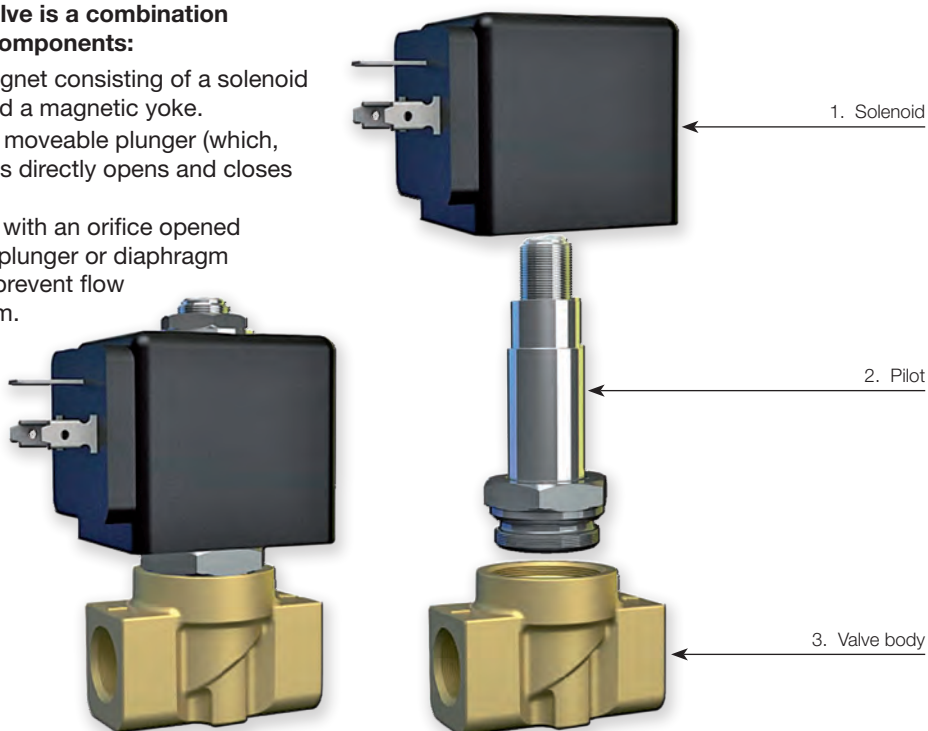
TECHNICAL INFORMATION ABOUT SOLENOID VALVES

General Information

Solenoid valves are electro-mechanical devices used for interrupting or diverting the flow of fluids by opening or closing one or more orifices.

The solenoid valve is a combination of three basic components:

1. An electromagnet consisting of a solenoid (windings) and a magnetic yoke.
2. A pilot with a moveable plunger (which, in some cases directly opens and closes the valve).
3. A valve body with an orifice opened or closed by plunger or diaphragm to enable or prevent flow of the medium.



Operating principles

The term solenoid refers to operator and coil, also known as pilot or magnetic actuator.

The coil consists of copper wire wound on a support reel. When electric current is applied into the coil, magnetic flow lines are generated which are stronger in the coil center.

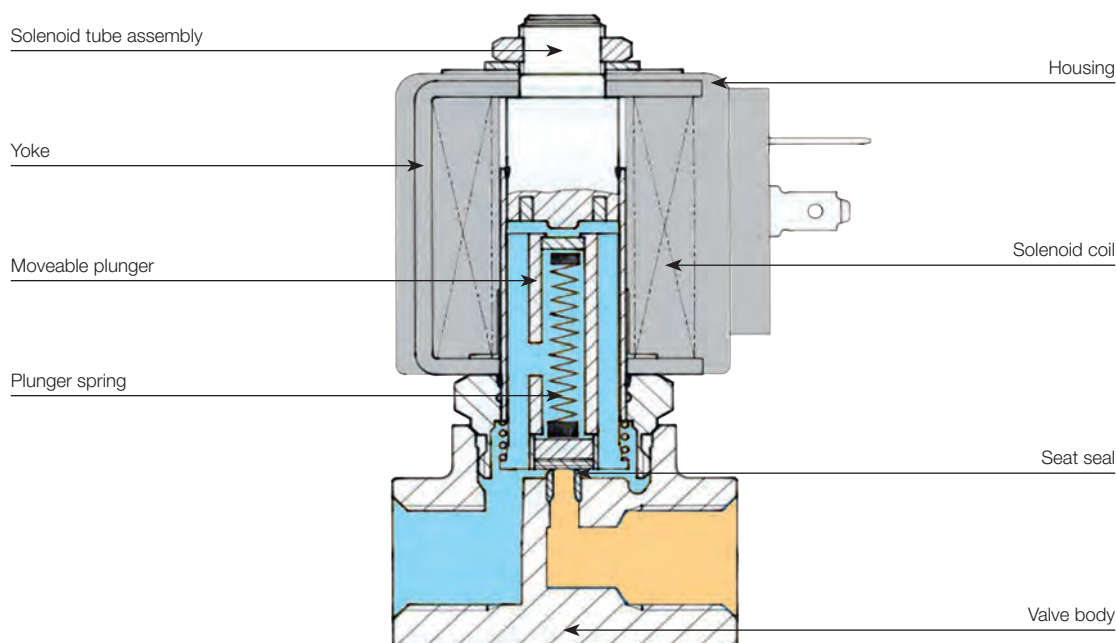
This magnetic flow raises the moveable plunger in the coil until it brings it into contact with the pole piece. The valve body has an orifice through which the fluid flows when the valve is open.

The moveable plunger has an integral seat which when the solenoid coil is energised, moves off the valve (direct operated) orifice or diaphragm (pilot operated) orifice opening the valve.

When the coil is de-energised, a return spring brings the plunger back to the original closing position, thus cutting off the flow of the fluid.

BASIC COMPONENTS OF A SOLENOID VALVE

Valve body:	Main part of the solenoid valve including ports, seat and orifices.
Solenoid tube assembly:	Cylinder, in stainless steel, hermetically sealed and closed at one extremity. It is the guide channel of the moveable plunger which is moved magnetically. The solenoid coil is fitted on the external side of the enclosing tube.
Moveable plunger:	Made by ferritic stainless steel, it is attracted by the solenoid magnetic field and slides inside the tube.
Plunger spring (or return spring):	Used to hold the moveable plunger in position and to return it when de-energized.
Seat seal:	Part of the moveable plunger, it is used to close a valves main orifice or pilot orifice.
Electromagnet (or solenoid coil):	Electrical part consisting of a copper windings (solenoid) along, with a magnetic yoke (armature), when electric current flows through, it generates a magnetic field attracting the moveable plunger.
Housing:	Part that contains and protects the coil.
Yoke:	Metalic case surrounding the coil and concentrating electro-magnetic force on the moveable plunger.



TECHNICAL VOCABULARY USED IN TABLES

Actuation	Body	Function	Port Size	Orifice (mm)	Flow Factor Kv(l/min)	MOPD (bar)	Max Fluid Temp. (°C)	Page
-----------	------	----------	-----------	--------------	-----------------------	------------	----------------------	------

NORMALLY CLOSED

Port size	Orifice Ø	Flow factors			Operating Pressure Differential		Fluid Temp.		Seat Seal	Valve Ref.	Housing Ref.	Coil Ref.	Power		Coil Group	Dwg. No.
		Kv l/min	KV m³/h	Qn l/min	Min	Max(MOPD)	Min	Max					AC W	DC W		
BSP	mm				bar	AC bar DC bar	°C	°C								

The basic technical features of each solenoid valve are indicated in the tables, the terminology used is shown and explained below. Please notice that in certain sections you will have the choice between two product ranges: Parker valves, within blue tables and the Parker Lucifer valves, within orange tables.

Actuation:	The mechanical method used to control the flow.
Body:	Main part of the solenoid valve with the ports, seats and orifice needed.
Function:	The way the valve operates when de-energised.
Port Size:	Fitting dimensions are defined as threaded in inches (G), in BSP or Sub-base, when a flat interface for ports is adopted.
Orifice (mm):	Main orifice diameter in millimetres (nominal diameter).
Flow Factors:	Define the quantity of water which flows through the solenoid valve with a pressure drop of 1 bar during one minute. Expressed in l/min and m³/h.
Max Fluid Temperature:	Maximum fluid temperature the valve can withstand.
Max Ambient Temperature:	Maximum ambient temperature the valve can withstand.
Minimum Operating Pressure Differential:	The lowest differential pressure required for operation (bar).
Maximum Operating Pressure Differential (MOPD):	The highest working differential pressure with 90% of the rated voltage (-10% Vn) applied to the solenoid coil (for AC) and 95% of the rated voltage (-5% Vn)(for DC).

Fluid Temperature:	Minimum and Maximum admissible temperature for the media used (°C).
Seat seal:	Material used for the seat discs.
Valve ref.:	It identify the pressure vessel
Valve type:	Refers to the Parker valve type
Housing ref.:	Element to fix the coil on the valve
Coil Ref.:	Compatible coil reference.
Coil type:	Compatible coil advised.
Power:	Power consumption of a specific electrical part on selected pressure vessel, rated by AC and DC (W). Power consumption must be considered in cold conditions for the coil, at T _{Amb} : +20°C. For 483510, 481865 and 496081 series, power consumption indicated in the tables must be considered in warm conditions.
Coil group:	Please refer to the specific section for the coil compatibility groups.
Dwg. No.:	Drawing number.

TECHNICAL INFORMATION

Solenoid valves are highly engineered products that can be used in many diverse applications.

In addition to operational functionality, media compatibility and suitability for the operating environment when selecting the best product for a given application.

This section provides a brief overview of the components, actuation and function modes of solenoid valves available from Parker Hannifin - FCSE.

Different Technologies:

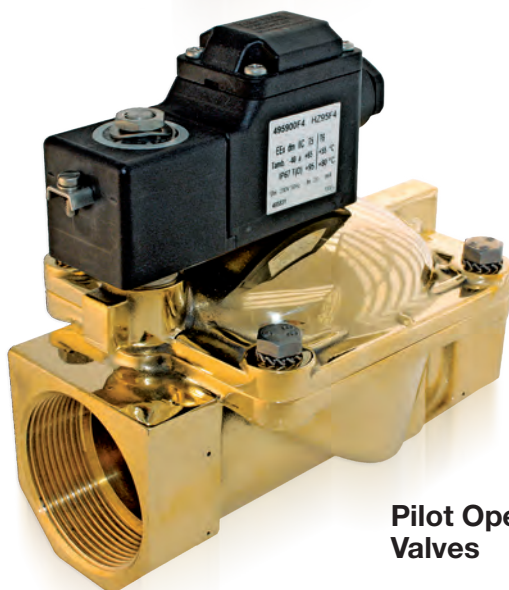
Solenoid valves are electrically operated devices used to control flow. The most common types of solenoid valve are:



**Direct Operated
Valves**



Magnalift Valves



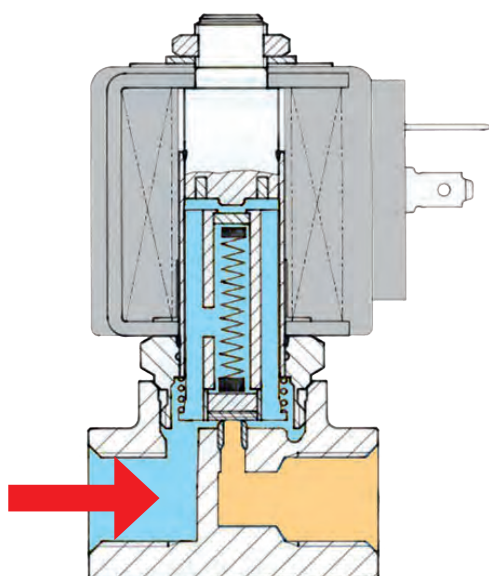
**Pilot Operated
Valves**

DIRECT OPERATED VALVE

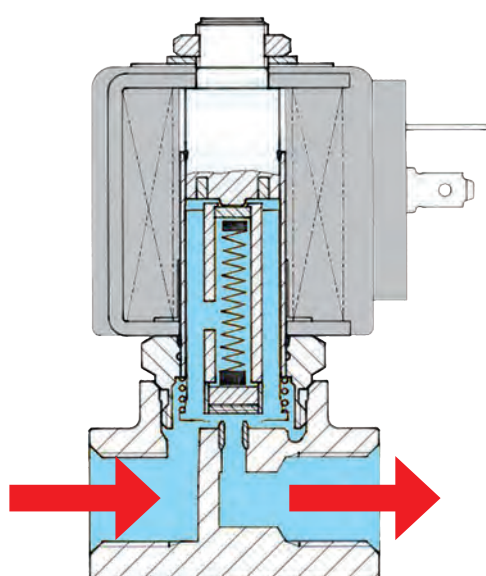
Magnetic force is used directly to open or close the plunger which controls the passage of the fluid. Performances are limited by the coil, the pressure, and the valve orifice size. For direct operated valves, the minimum working pressure is 0 bar and the maximum pressure relies on the combination (valve/coil) chosen.

Direct Operated Valve

De-energised

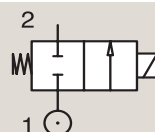


Energised



Example:

- 121 Series

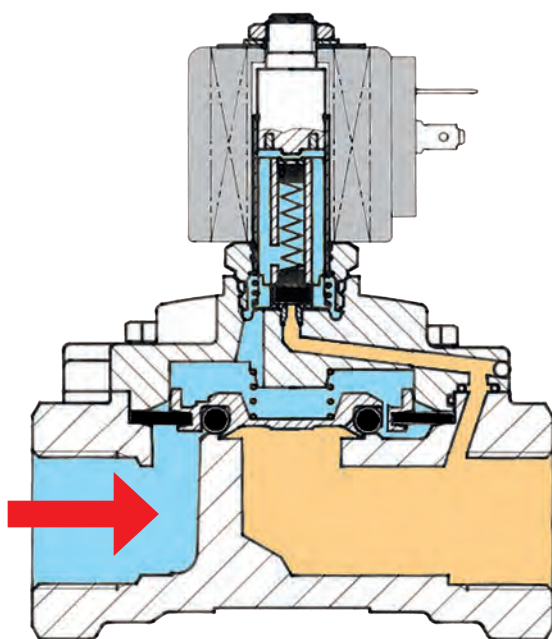


PILOT OPERATED VALVE

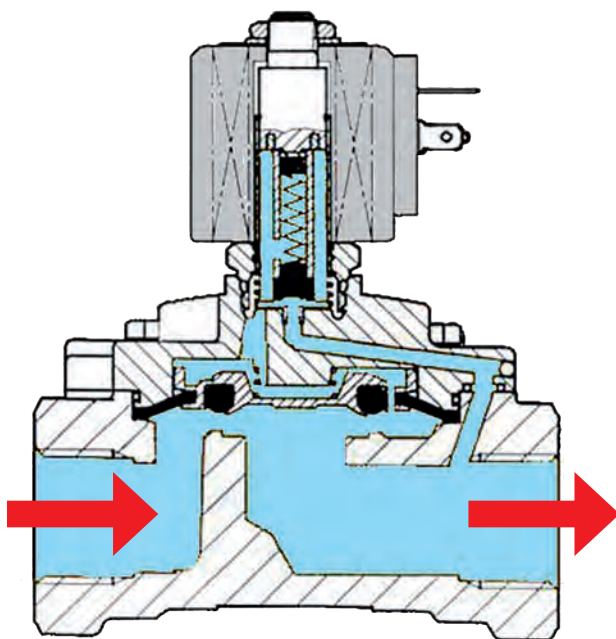
To control a higher flow, it is necessary to use pilot operated valves. The supply pressure enters the direct operated "pilot stage" which directs the flow to a "pilot chamber" which, in turn, applies the pilot pressure over a large area (generally a diaphragm or piston). Therefore, a large force is generated to move the main sealing elements against higher pressure or over a large orifice. One condition of operation is to have a minimum pressure available to shift the valve (indicated in the catalogue). In most applications, this presents no particular problems (refer to magnalift valve section). The pressure rating of the valve starts between 0.1 to 0.5 bar (depending on the valve). (NB. Pilot Operated Valves are also called Servo Operated Valves).

Pilot Operated Valve

De-energised

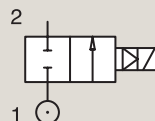


Energised



Example:

- 321 Series
- 7321B Series



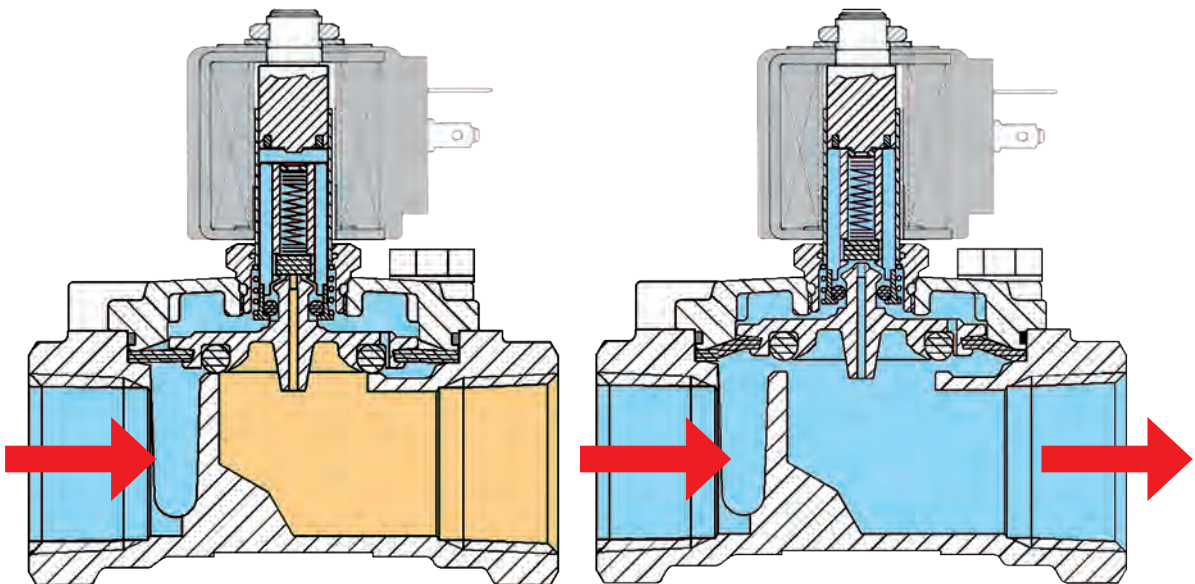
MAGNALIFT VALVE

The magnalift valves combine the features of the direct operated and pilot operated valves. A mechanical link between the plunger and diaphragm retainer allows the valve to operate as a direct operated valve at low pressures and as a pilot operated valve at higher pressures. Magnalift valves are specially designed for applications where 0 pressure is needed to operate the valve, as well as bigger flow than a direct operated valve.

Magnalift Operated Valve

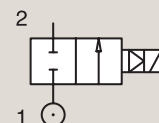
De-energised

Energised



Example:

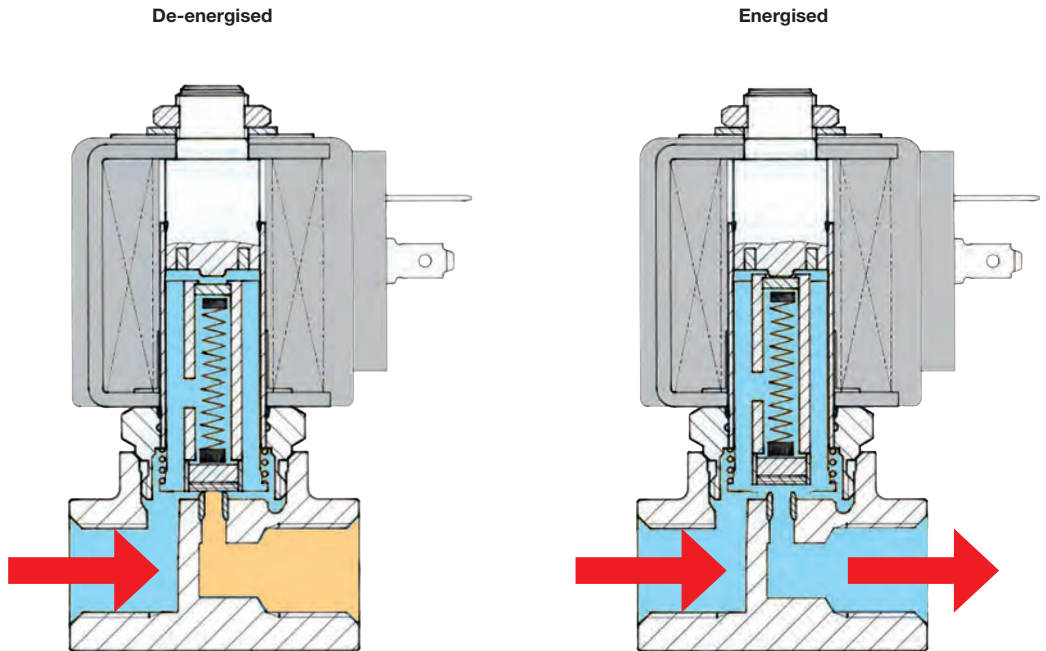
- 221 Series



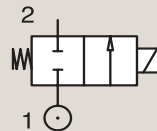
NORMALLY CLOSED VALVE

Most of our valves are available in normally closed and normally open configuration when not energized. In certain applications, you may require a normally open valve (open function in case of current failure). The differentiating factor of design of this technology, is based upon the design of the seat seal, which is reversed in comparison to a normally closed valve.

Normally Closed Valve



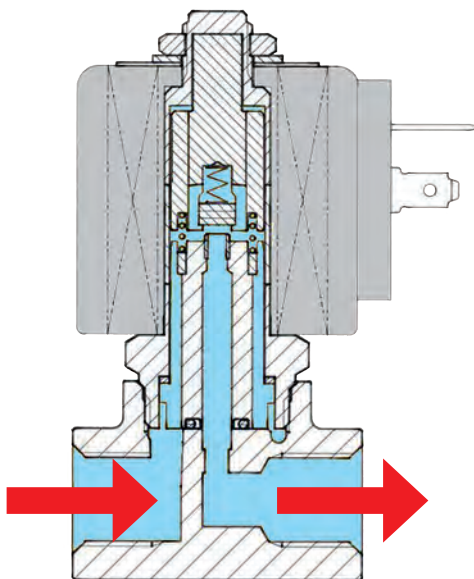
Example:
• 121 Series



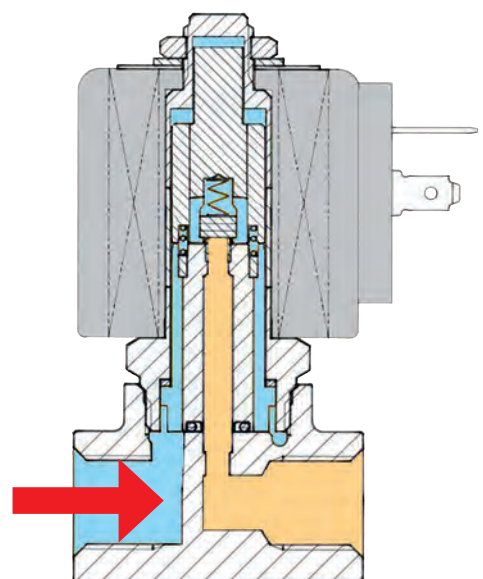
NORMALLY OPEN VALVE

Normally Open Valve

De-energised

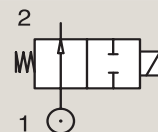


Energised



Example:

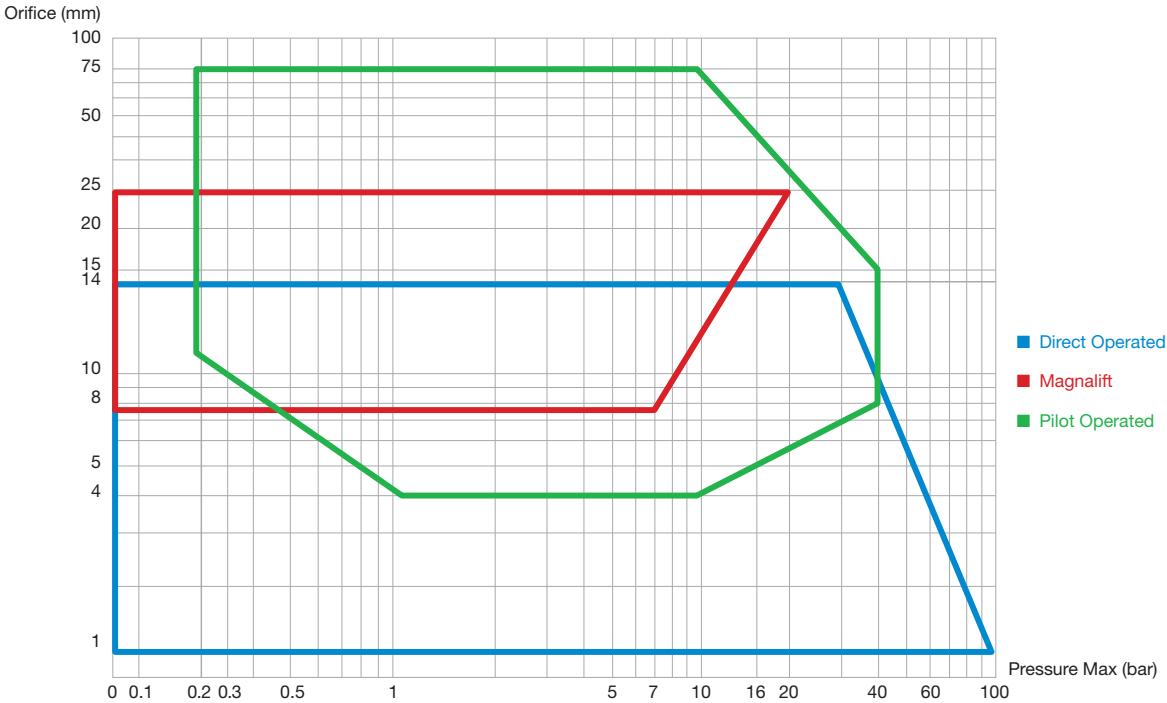
- 122 Series



FLOW AND PRESSURE RANGES

Area of operation:

Each valve principle, as described in the previous pages, has a defined area of operation related to its pressure and flow capabilities. The following graph shows which type of valve is suitable for a certain situation.



Areas of operation of Parker solenoid valves.

SIZING SOLENOID VALVES

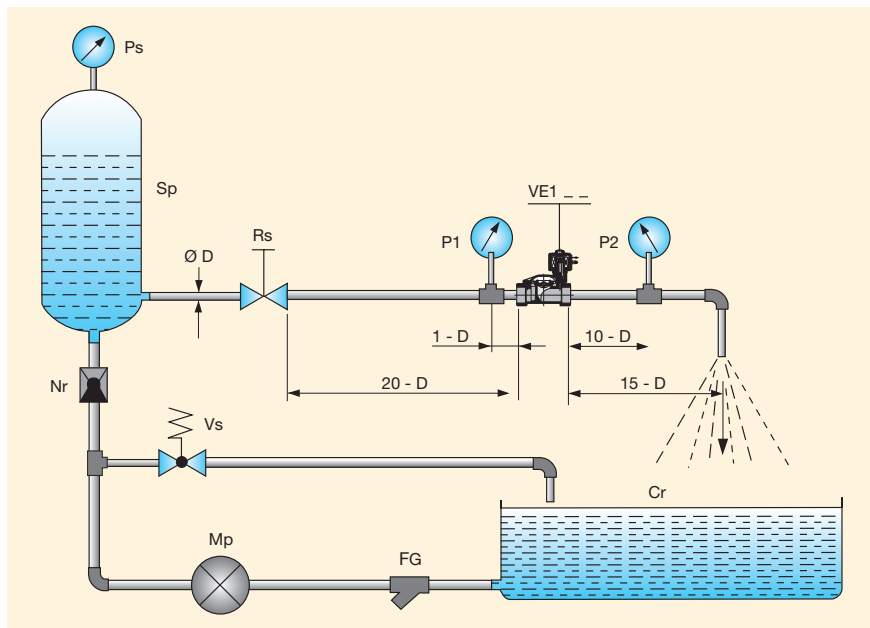
The correct choice of solenoid valve is essential as it determines the regulation and performance required for practical application on a system. In order to decide on the exact type of solenoid valve, various parameters have to be known.

However the calculation method, based on the flow coefficient K_v , has proved highly practical as it can be determined on the basis of:

- Required flow rate
- Type of fluid and relative viscosity
- Flow resistance
- Specific gravity and temperature

This flow coefficient K_v is determined as defined in the VDI/VDE 2173 standards.

It represents the flow of water in m^3/h or L/min with a temperature from 5 to $30^\circ C$ which passes through the solenoid valve with a pressure drop of 1 bar.



Note:

The flow coefficient used in the USA is known as C_v and represents the water flow rate in US gallons per minute with a pressure drop ΔP of 1 psi.

To convert C_v in K_v and vice versa use:

$$1 K_v = 0.862 C_v$$

$$1 C_v = 1.16 K_v$$

FG = Grid Filter Mp = Pump Vs = Safety Valve Nr = Check Valve Sp = Pressure Tank Ps = Static Pressure Manometer

After existing conditions have been converted into this factor K_v , the type of valve is found by referring to the pages in the related sections in this catalogue.

Parameters used for selecting the solenoid valve are in the table next page.

Consult conversion tables of the various units of measurement as defined by the ISO (International Standards Organisation) - I.S. (International System) set out in this catalogue.

FLOW AND PRESSURE RANGES

Pressure

symbol (P)
unit of measurement [bar]
Working pressure

Pressure drop

symbol (ΔP)
unit of measurement [bar]
Pressure difference between inlet (P_1)
and outlet (P_2) of the solenoid valve when
a medium is flowing through the valve
($\Delta P = P_1 - P_2$).

Flow coefficient

symbol (K_v)
unit of measurement [m^3/h]

Specific gravity of the medium

symbol (γ)
unit of measurement [Kg/dm^3]

Temperature of the medium

symbol (t)
unit of measurement [$^{\circ}C$]

Flow rate

- for liquids
symbol (Q)
unit of measurement [m^3/h]
- for gases
symbol (Q_n)
unit of measurement [Nm^3/h]
- for steam
symbol (Q_v)
unit of measurement [Kg/h]

Specific volume

symbol (V_s)
unit of measurement [m^3/Kg]

a) Solenoid valves for liquids:

Flow rate: $Q = K_v \cdot \sqrt{\frac{\Delta P}{\gamma}}$ where: $Q = m^3/h$
 $\Delta P = bar$
 $\gamma = Kg/dm^3$

Flow coefficient:
 $K_v = Q \cdot \sqrt{\frac{\gamma}{\Delta P}}$

In the case of liquids with viscosity greater than 3°E (22 cStokes) the K_v is modified according to the formula:

$$K_{v_1} = K_v + C \quad C = \frac{\delta \cdot \sqrt{K_v}}{200 \cdot Q} + 1$$

where C is the viscosity correction factor calculated by means of the formula:
where:

δ = kinematic viscosity of the fluid expressed in centistokes
 K_v = flow rate factor of the solenoid valve
 Q = flow rate in m^3/h .

Pressure drop:

$$\Delta P = \gamma \cdot \left(\frac{Q}{K_v}\right)^2$$

b) Solenoid valves for gases:

If $\Delta P \leq 1/2 P_1$ use the following formulae:

Flow rate: $Q_n = 514 \cdot K_v \cdot \sqrt{\frac{\Delta P \cdot P_2}{\gamma_n \cdot (273 + t)}}$

where: $Q_n = \text{Nm}^3/\text{h}$ $P_1 = \text{bar}$ $P_2 = \text{bar}$

Flow coefficient: $K_v = \frac{Q_n}{514} \cdot \sqrt{\frac{(273+t) \cdot \gamma_n}{\Delta P \cdot P_2}}$

$t = ^\circ\text{C}$

$\gamma_n = \text{Kg}/\text{m}^3$

Pressure drop: $\Delta P = \frac{(273 + t) \cdot \gamma_n}{P_2} \cdot \frac{Q_n^2}{(514 \cdot K_v)^2}$

If $\Delta P > 1/2 P_1$ use the following formula:

$Q_n = 757 \cdot K_v \cdot \sqrt{\frac{\Delta P \cdot P_2}{(273 + t) \cdot \gamma_n}}$

c) Solenoid valves for steam:

If $\Delta P \leq 1/2 P_1$ use the following formulae:

Flow rate: $Q_v = 31,7 \cdot K_v \cdot \sqrt{\frac{\Delta P}{V_s}}$

where: $Q_v = \text{Kg}/\text{h}$ $\Delta P = \text{bar}$ $V_s = \text{m}^3/\text{Kg}$

Flow coefficient: $K_v = \frac{Q_v}{31,7} \cdot \sqrt{\frac{V_s}{\Delta P}}$

Pressure drop: $\Delta P = V_s \cdot \frac{Q_v^2}{(31,7 \cdot K_v)^2}$

If $\Delta P > 1/2 P_1$ use the following formula:

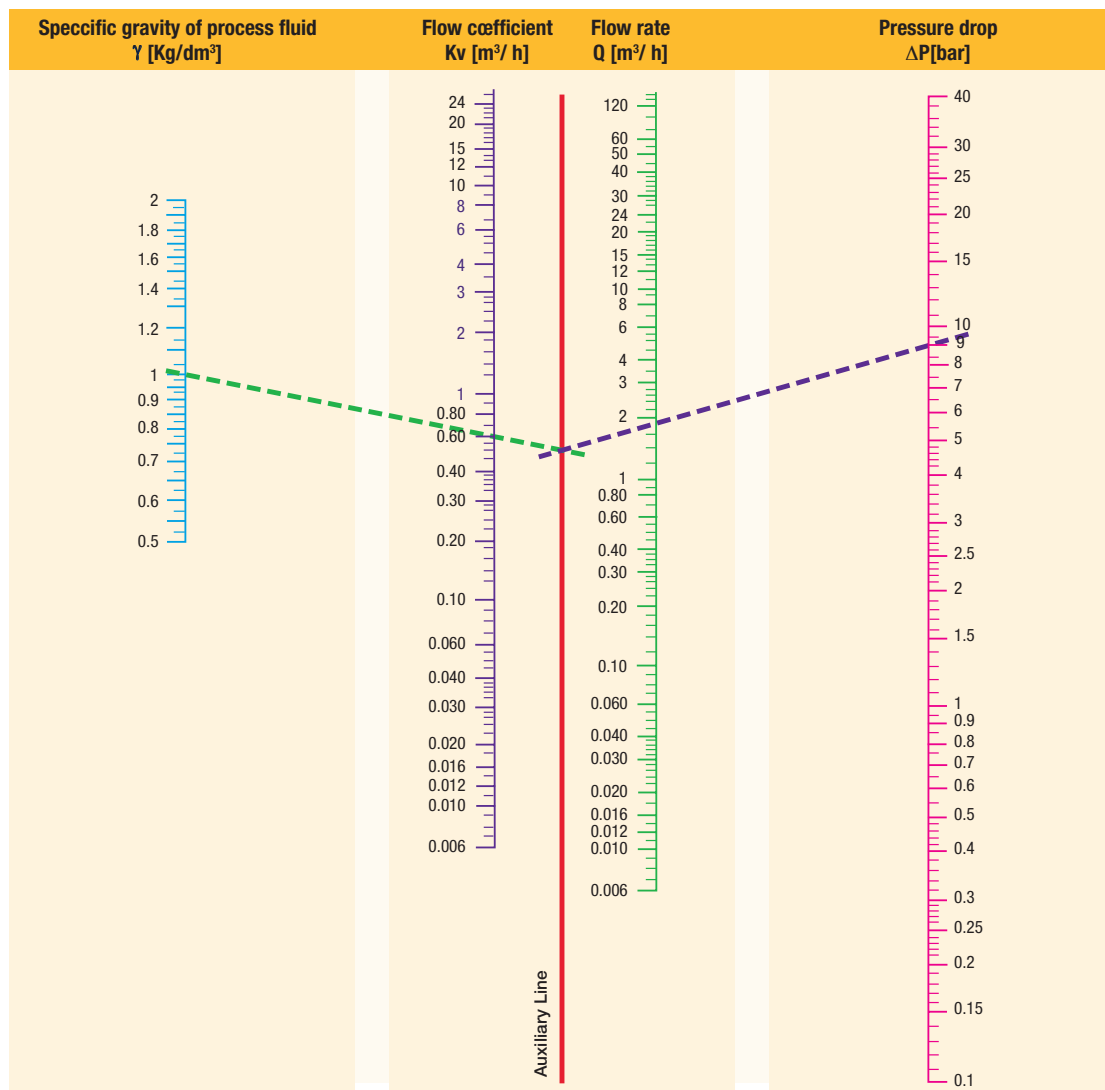
$Q_v = 22,4 \cdot K_v \cdot \sqrt{\frac{P_1}{V_s}}$

Notes:

1) Should the value ΔP not be specified, use the following, which is based on experience:

- For liquids only in the case of free discharge $\Delta P = 90\%$ of the input pressure (P_1).
- For gases never use a ΔP of more than 50% of the absolute inlet pressure, since the excessive pressure drop may cause an irregular flow rate. In most cases, ΔP can be considered as 10% of the input pressure.

2) Specific volume value (V_s) for dry saturated steam, see the table in diagram 3.



Monogram for liquid flow calculation

Specific gravity of the most common fluids (γ = Kg/dm ³) - (t = 15°C - P = 760 mm Hg)					
Acetone	0.76	Benzenol	0.90	Naphtha	0.76
Water	1.00	Beer	1.02	Pentane	0.63
Sea water	1.02	Hexane	0.66	Vegetable oil	0.92
Ethyl alcohol	0.79	Ethane	0.68	Hydraulic oil	0.92
Methyl alcohol	0.81	Diesel oil	0.70	Wine	0.95
Petrol	0.68	Milk	1.03		

FLOW RATE FOR GASES

The gas flow through a valve is given by:

$$Q = C \cdot P_1 \cdot k_T \cdot \omega \cdot \gamma_{\text{air}} / \gamma_{\text{gas}}$$

Where

- Q** = Flow Rate [dm³/s]
- C** = Conductance [dm³/s.bar]
- P₁** = Inlet Pressure [bar abs]
- γ** = Specific Weight [kg/m³]
- k_T** = Temperature Correction Factor

$$\omega = \sqrt{1 - \frac{P_2/P_1 - b}{1 - b}}$$

$$k_T = \sqrt{\frac{293}{273 + \text{Temp. } ^\circ\text{C}}}$$

Nominal Flow Qn:

Calculations can be made with specific flow factors based on the CETOP RP 50P standard. For practical purposes and ease of valve selection the catalogue shows the nominal flow Qn. The nominal flow Qn is defined as the flow rate (L/min) of air across the valve when the inlet pressure P₁ = 6 bar and the pressure drop ΔP = 1 bar.

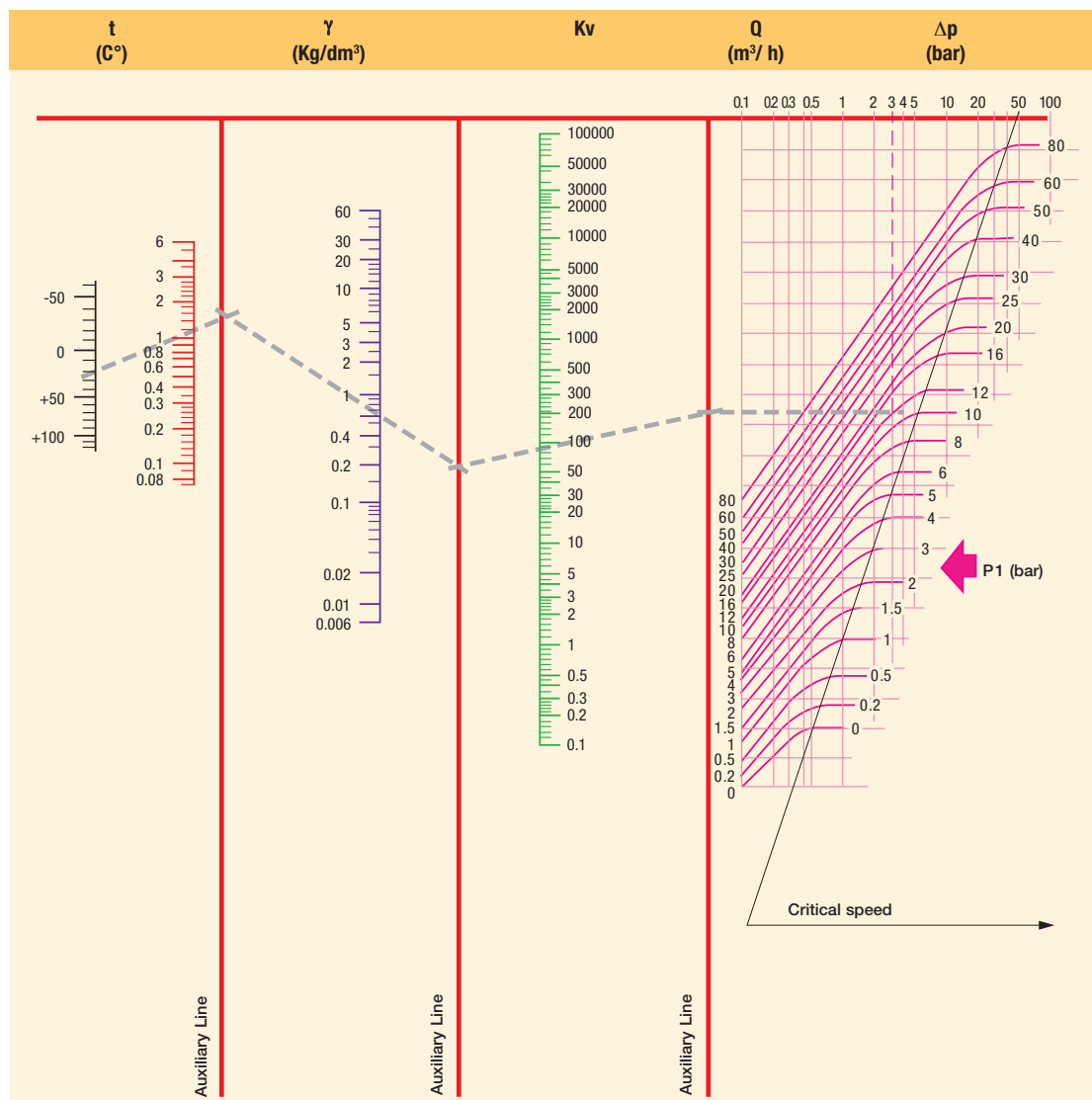
N.B.

The values of the flow factors and flow rates mentioned in catalogues are subject to +/-15% tolerances.

Pneumatic application: $\gamma_{\text{air}} / \gamma_{\text{gas}} = 1$

a) Choked flow conditions $P_2 \leq b \cdot P_1$
in this case $\omega = 1 \rightarrow Q = C \cdot P_1 \cdot k_T$

b) Free flow conditions $P_2 > b \cdot P_1$
in this case $\rightarrow Q = C \cdot P_1 \cdot k_T \cdot \omega$



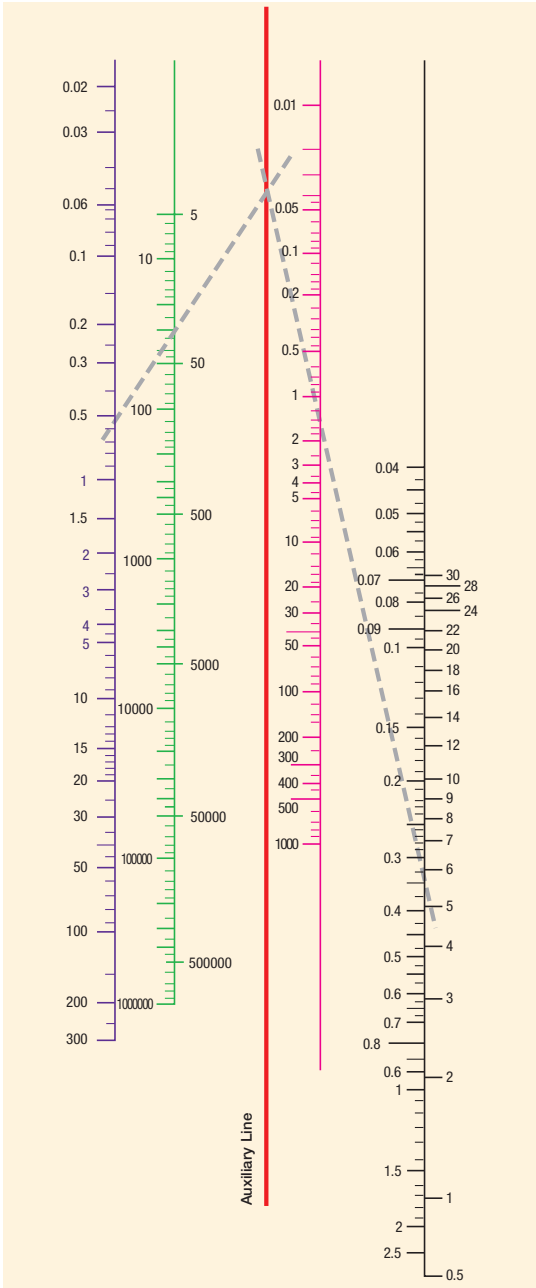
t = Fluid Temperature γ = Specific Gravity K_v = Flow Coefficient Q = Flow Rate Δp = Pressure Drop P_1 = Inlet Pressure

Specific gravity of the most common gases ($\gamma = \text{Kg/m}^3$) - ($t = 0^{\circ}\text{C}$ - $P = 760\text{mm Hg}$)

Acetylene	1.176	Helium	0.179	Natural gas	0.723
Carbon dioxide	1.965	Ethane	1.035	Methane	0.722
Air	1.293	Ethylene	1.259	Carbon monoxide	1.250
Argon	1.780	Hydrogen	0.089	Oxygen	1.429
Nitrogen	1.255			Propane	1.520
Butane	2.000			Steam	0.805

TECHNICAL INFORMATION

Diagram 3 for Dry Saturated Steam



Steam (Dry Saturated) Data

P ₂ bar	Temp. °C	Vs m ³ /Kg	P ₂ bar	Temp. °C	Vs m ³ /Kg
0.01	6.6	131.600	10.00	179.0	0.200
0.02	17.1	68.300	110.00	183.2	0.181
0.03	23.7	46.500	120.00	187.1	0.176
0.04	28.6	35.500	13.00	190.7	0.155
0.05	32.5	28.700	14.00	194.1	0.144
0.06	35.8	24.200	15.00	197.4	0.135
0.08	41.1	18.500	16.00	200.4	0.126
0.10	45.4	15.000	17.00	203.4	0.119
0.20	59.7	7.800	18.00	206.2	0.113
0.30	68.7	5.330	19.00	208.8	0.107
0.40	75.4	4.070	20.00	211.4	0.102
0.50	80.9	3.300	22.00	216.2	0.093
0.60	85.5	2.790	24.00	220.8	0.085
0.70	89.5	2.410	26.00	225.0	0.079
0.80	93.0	2.130	28.00	229.0	0.073
0.90	96.2	1.910	30.00	232.8	0.068
1.00	99.1	1.730	32.00	236.4	0.064
1.50	110.8	1.180	34.00	239.8	0.060
2.00	119.6	0.900	36.00	243.1	0.057
2.50	126.8	0.730	38.00	246.2	0.053
3.00	132.9	0.620	40.00	249.2	0.051
3.50	138.2	0.530	45.00	256.2	0.045
4.00	142.9	0.470	50.00	262.7	0.040
4.50	147.2	0.420	55.00	268.7	0.036
5.00	151.1	0.380	60.00	274.3	0.033
5.50	154.7	0.350	65.00	279.6	0.030
6.00	158.1	0.320	70.00	284.5	0.028
6.50	161.2	0.300	80.00	293.6	0.024
7.00	164.2	0.280	90.00	301.9	0.021
7.50	167.0	0.260	100.00	309.5	0.018
8.00	169.6	0.250	150.00	340.5	0.011
8.50	172.1	0.230	200.00	364.2	0.006
9.00	174.5	0.220	225.00	374.0	0.003
9.50	176.8	0.210			

Kv = Flow Coefficient

Qv = Flow Rate

Δp = Pressure Drop

Vs = Specific Volume

P₂ = Outlet Pressure

VISCOSITY CONVERSION TABLE

Centistokes cStokes mm ² /S	°Engler °E	Saybolt Universal Second SSU	Rewood Second N°1 SRW N°1
1	1	-	-
12	2	65	55
22	3	100	90
30	4	140	120
28	5	175	155
45	6	210	185
60	8	275	245
75	10	345	305
90	12	415	370
115	15	525	465
150	20	685	610
200	26	910	810
300	39	1 385	1 215
400	53	1 820	1 620
500	66	2 275	2 025
750	97	3 365	2 995
1 500	197	6 820	6 075

OTHER USEFUL FORMULAS

Formulas:

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5/9$$

$$^{\circ}\text{F} = (^{\circ}\text{C} \times 9/5) + 32$$

$$\text{m}^3/\text{h} = \text{l/min} \times 0.06$$

$$\text{l/min} = \text{m}^3/\text{h} \times 16,67$$

$$\text{m}^3/\text{sec} = \text{m}^3/\text{h} \times 2,778 \times 10^{-4}$$

$$\text{m}^3/\text{sec} = \text{l/min} \times 1,667 \times 10^{-5}$$

Examples:

$$(167^{\circ}\text{F} - 32) \times 5/9 = 75^{\circ}\text{C}$$

$$(30^{\circ}\text{C} \times 9/5) + 32 = 86^{\circ}\text{F}$$

$$100 \text{ l/min} \times 0.06 = 6 \text{ m}^3/\text{h}$$

$$9 \text{ m}^3/\text{h} \times 16,67 = 150 \text{ l/min}$$

$$18.000 \text{ m}^3/\text{h} \times 2.778 \times 10^{-4} = 5 \text{ m}^3/\text{sec}$$

$$479.904 \text{ l/min} \times 1.667 \times 10^{-5} = 8 \text{ m}^3/\text{sec}$$

NOTES

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

[illegible]

INDEX FOR EXPLOSION PROOF ELECTRICAL PARTS

Coil Reference	Coil Group	Designation	Power DC Pn (W)	Power AC Pn (W)	Ambient Temperature	UL	Degree of Protection	ATEX or NEMA 4X Protection (Gas)	Page
496637	1.2	Explosion proof electrical part "nc AC", 22 mm, double frequency	3.0	3.0	-40°C to +50°C	-	IP65	II 3 GD Ex tc IIC T 95°C	273
495880	2.0/2.2	Explosion proof electrical part "nc AC", 32 mm	14.0	14.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3	277
496155	2.0/2.2	Explosion proof increased safety electrical part "nc AC", 50 mm	14.0	14.0	-40°C to +65°C	-	IP67	II 3 GD Ex nc AC IIC T3	279
495915	4.0	Explosion proof increased safety electrical part "nc AC", 50 mm	13.0	11.0	-40°C to +65°C	-	IP67	II 3 GD Ex nc AC IIC T3	278
495870	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	274
495875	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	7.0	6.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	276
496110	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	-	9.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	274
495865	1.1	Explosion proof electrical part "nc AC", low power, 22 mm	2.5	2.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T5	272
496125	6.0	Explosion proof electrical part "nc AC", low power, 32 mm	1.6	-	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T5 / T6	275
492670	2.0/2.1	Explosion proof encapsulated electrical part "mb", 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T4	282
482605	1.1	Explosion proof encapsulated electrical part "mb", 32 mm	5.0	4.0	-40°C to +65°C	-	IP65	II 2 GD Ex mb II T4 / T5	281
482606	1.1	Explosion proof encapsulated electrical part "mb", low power, 32 mm	2.5	2.0	-40°C to +65°C	-	IP65	II 2 GD Ex mb II T4 / T5	281
492070	2.0/2.1	Explosion proof encapsulated electrical part "mb", with water proof metal housing, 50 mm	8.0	9.0	-40°C to +65°C	-	IP67	II 2 GD Ex mb II T4 / T5	283
HZ10	2.0/2.1	Explosion proof encapsulated electrical part "mb", double frequency	8.0	8.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T3 / T5	284
HZ11	2.0/2.2	Explosion proof encapsulated electrical part "mb", double frequency	14.0	14	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T3 / T5	285
497105	10.3	Flame proof electrical part "db", 50 mm	8.0	8.0	-50°C to +80°C	-	IP66	Ex db IIC T4 / T5 / T6	280
493640	2.0/2.1	Flame proof encapsulated electrical part "db mb", double frequency	8.0	8.0	-40°C to +75°C	-	IP65	II 2 GD Ex db mb IIC T4 / T5	290
495905	2.0/2.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	287
496560	10.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	288
496800	10.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	289
495900	6.0	Flame proof encapsulated electrical part "db mb", low power, 37 mm	2.0	2.5	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	286
496555	10.2	Flame proof encapsulated electrical part "db mb", 37 mm	6.0	6.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	288
496700	10.2	Flame proof encapsulated electrical part "db mb", 37 mm	6.0	6.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	289
494040	2.0/2.1	Explosion proof increased safety electrical part "eb", 50 mm	8.0	8.0	-40°C to +90°C	-	IP67	II 2 GD Ex eb IIC T3 / T4	291
483371	2.0/2.1	Explosion proof increased safety electrical part "eb", 50 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex eb IIC T4	291
492190	2.0/2.1	Explosion proof increased safety and encapsulated elect. part "eb", 50 mm	9.0	11.0	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T3 / T4	294
492310	10.1	Explosion proof increased safety and encapsulated electrical part "eb", 50 mm	6.0	6.0	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T4 / T5	292
492210	9.0	Explosion proof increased safety and encapsulated electrical part "eb", "Booster", 50 mm	1.0 to 1.8	-	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T5 / T6	293
495910	8.0	Explosion proof intrinsically safe electrical part "ia", "booster", 37 mm	0.3 to 1.2	-	-40°C to +80°C	-	IP67	II 1 GD Ex ia IIC T6 / T5 / T4	296
496565	9.0	Explosion proof intrinsically safe electrical part "ia", "Booster", 37 mm	0.77 to 2.58	-	-40°C to +80°C	-	IP67	II 1 GD Ex ia IIC T6 / T5 / T4	297
483580.01	7.0	Explosion proof intrinsically safe electrical part "ia", 32 mm	3.0	-	-40°C to +55°C	-	IP65	II 1 GD Ex ia IIC T6	295
488650.01	7.0	Explosion proof intrinsically safe electrical part "ia", 50 mm	0.3 to 3.0	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	300
492965.01	9.0	Explosion proof intrinsically safe electrical part "ia", "Booster", 50 mm	0.3 to 2.3	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	298
482870.01	12.0	Explosion proof intrinsically safe electrical part "ia", 50 mm	3.0	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	299

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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Coil Reference	Coil Group	Designation	Power DC Pn (W)	Power AC Pn (W)	Ambient Temperature	UL	Degree of Protection	ATEX or NEMA 4X Protection (Gas)	Page
481000	2.0/2.1	Coil with screw terminal, 40 mm	8.0	8.0	-40°C to +50°C	-	IP 44 to 67	-	267
481044	2.0/2.2	Coil with screw terminal High power, 40 mm	-	14.0	-40°C to +50°C	-	IP 44 to 67	-	268
481180	1.1	Coil for DIN plug connection, 22 mm	5.0	4.0	-40°C to +50°C	-	IP65	-	259
481865	2.0/2.1	Coil for DIN plug connection, 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	-	254
482605	1.1	Explosion proof encapsulated electrical part "mb", 22 mm	5.0	4.0	-40°C to +65°C	-	IP65	II 2 GD Ex mb II T4 / T5	281
482606	1.1	Explosion proof encapsulated electrical part "mb", low power, 22 mm	2.5	2.0	-40°C to +65°C	-	IP65	II 2 GD Ex mb II T4 / T5	281
482730	3.0	Coil for DIN plug connection, reduced power, 32 mm	7.0	6.0	-40°C to +50°C	-	IP65	-	256
482740	6.0	Coil for DIN plug connection, low power, 32 mm	1.6	-	-40°C to +50°C	-	IP65	-	257
482870.01	12.0	Explosion proof intrinsically safe electrical part "ia", 50 mm	3.0	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	299
483371	2.0/2.1	Explosion proof increased safety electrical part "eb", 50 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex eb IIC T4	291
483510	2.0/2.1	Coil for DIN plug connection, 32 mm	-	9.0	-40°C to +50°C	-	IP65	-	254
483520	2.0/2.1	Coil with screw terminal, double frequency, 40 mm	-	9.0	-40°C to +50°C	-	IP 44 to 67	-	267
483580.01	7.0	Explosion proof intrinsically safe electrical part "ia", 32 mm	3.0	-	-40°C to +55°C	-	IP65	II 1 GD Ex ia IIC T6	295
483590	1.1	Coil for DIN plug connection, double frequency, 22 mm	-	3.0	-40°C to +50°C	-	IP65	-	261
484990	4.0	Coil with screw terminal, bistable, for impulse applications, 40 mm	-	11.0	-40°C to +50°C	-	IP44	-	270
485100	2.0/2.1	Coil with screw terminal, high temperature, 40 mm	8.0	8.0	-40°C to +50°C	-	IP 44 to 67	-	269
485400	4.0	Coil with screw terminal, bistable, for impulse applications, 40 mm	13.0	-	-40°C to +50°C	-	IP44	-	270
486265	2.0/2.2	Coil with screw terminal, high temperature-high power, 40 mm	14.0	14.0	-40°C to +50°C	-	IP 44 to 67	-	269
488650.01	7.0	Explosion proof intrinsically safe electrical part "ia", 50 mm	0.3 to 3.0	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	300
488980	1.1	Coil for DIN plug connection, low power, 22 mm	2.5	2.0	-40°C to +50°C	-	IP65	-	259
491514	2.0/2.1	Coil for DIN plug connection, 32 mm, UL class F	-	11.0	-40°C to +50°C	●	IP65	-	258
492070	2.0/2.1	Explosion proof encapsulated electrical part "mb", with water proof metal housing, 50mm	8.0	9.0	-40°C to +65°C	-	IP67	II 2 GD Ex mb II T4 / T5	283
492190	2.0/2.1	Explosion proof increased safety and encapsulated electrical part "eb", 50 mm	9.0	11.0	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T3 / T4	294
492210	9.0	Explosion proof increased safety and encapsulated electrical part "eb", "Booster", 50 mm	1.0 to 1.8	-	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T5 / T6	293
492310	10.1	Explosion proof increased safety and encapsulated electrical part "eb", 50 mm	6.0	6.0	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T4 / T5	292
492425	2.0/2.2	Coil for DIN plug connection, high temperature, 32 mm	14.0	14.0	-40°C to +50°C	-	IP65	-	255
492453	2.0/2.1	Coil for DIN plug connection, high temperature, 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	-	255
492670	2.0/2.1	Explosion proof encapsulated electrical part "mb", 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T4	282
492912	1.1	Coil for DIN plug connection, 22 mm, UL	4.0	3.0	-40°C to +50°C	●	IP65	-	260
492965.01	9.0	Explosion proof intrinsically safe electrical part "ia", "Booster", 50 mm	0.3 to 2.3	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	298
493640	2.0/2.1	Flame proof encapsulated electrical part "db mb", double frequency	8.0	8.0	-40°C to +75°C	-	IP65	II 2 GD Ex db mb IIC T4	290

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Coil Reference	Coil Group	Designation	Power DC Pn (W)	Power AC Pn (W)	Ambient Temperature	UL	Degree of Protection	ATEX or NEMA 4X Protection (Gas)	Page
494040	2.0/2.1	Explosion proof increased safety electrical part "eb", 50 mm	8.0	8.0	-40°C to +90°C	-	IP67	II 2 GD Ex eb IIC T3 / T4	291
495870	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	274
495875	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	7.0	6.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	276
495880	2.0/2.2	Explosion proof electrical part "nc AC", 32 mm	14.0	14.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3	277
495900	6.0	Flame proof encapsulated electrical part "db mb", low power, 37 mm	2.0	2.5	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	286
495905	2.0/2.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	287
495910	8.0	Explosion proof intrinsically safe electrical part "ia", "booster", 37 mm	0.3 to 1.2	-	-40°C to +80°C	-	IP67	II 1 GD Ex ia IIC T6 / T5 / T4	296
495915	4.0	Explosion proof increased safety electrical part "nc AC", 50 mm	13.0	11.0	-40°C to +65°C	-	IP67	II 3 GD Ex nc AC IIC T3	278
496081	2.0/2.1	Coil with flying leads, IP 67, 32 mm	9.0	9.0	-40°C to +50°C		IP67	-	265
496082	2.0/2.2	Coil with flying leads, IP 67, 32 mm, UL	16.0	13.0-14.0	-40°C to +120°C	●	IP67	-	266
496110	2.0/2.1	Explosion proof electrical part "nc AC", 32 mm	-	9.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	274
496125	6.0	Explosion proof electrical part "nc AC", low power, 32 mm	1.6	-	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T5 / T6	275
496131	1.2	Coil for DIN plug connection, double frequency, 22 mm	3.0	3.0	-40°C to +50°C	-	IP65	-	262
496155	2.0/2.2	Explosion proof increased safety electrical part "nc AC", 50 mm	14.0	14.0	-40°C to +65°C	-	IP67	II 3 GD Ex nc AC IIC T3	279
496482	1.2	Coil for DIN plug connection, double frequency coil, 22 mm	3.0	3.0	-40°C to +50°C	-	IP65	-	263
496555	10.2	Flame proof encapsulated electrical part "db mb", 37 mm	6.0	6.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	288
496560	10.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	288
496565	9.0	Explosion proof intrinsically safe electrical part "ia", "Booster", 37 mm	0.77 to 2.58	-	-40°C to +80°C	-	IP67	II 1 GD Ex ia IIC T6 / T5 / T4	297
496637	1.2	Explosion proof electrical part "nc AC", double frequency, 22 mm	3.0	3.0	-40°C to +50°C	-	IP65	II 3 D Ex TC IIC T 95°C	273
496700	10.2	Flame proof encapsulated electrical part "db mb", 37 mm	6.0	6.0	-40°C to +65°C	-	IP67	II 2 G Ex db mb IIC T4 / T5 / T6	289
496800	10.1	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	289
496895	10.1	Coil for DIN plug connection for oil and gas, 37 mm	8.0	8.0	-40°C to +50°C	-	IP65	-	264
497105	10.3	Flame proof stainless steel electrical part "db"	8.0	8.0	-50°C to +80°C	-	IP66	II 2 GD Ex db IIC T4 / T5 / T6	280
HZ10	2.0/2.1	Explosion proof encapsulated electrical part "mb", double frequency	8.0	8.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T4 / T5	284
HZ11	2.0/2.2	Explosion proof encapsulated electrical part "mb", double frequency	14.0	14.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T4 / T5	285

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Coil Group	Coil Reference	Designation	Power DC Pn (W)	Power AC Pn (W)	Ambient Temperature	UL	Degree of Protection	ATEX or NEMA 4X Protection (Gas)	Page
1.1	488980	Coil for DIN plug connection, low power, 22 mm	2.5	2.0	-40°C to +50°C	-	IP65	-	259
1.1	492912	Coil for DIN plug connection, UL 22 mm	4.0	3.0	-40°C to +50°C	●	IP65	-	260
1.1	481180	Coil for DIN plug connection, 22 mm	5.0	4.0	-40°C to +50°C	-	IP65	-	259
1.1	483590	Coil for DIN plug connection, double frequency, 22 mm	-	3.0	-40°C to +50°C	-	IP65	-	261
1.1	482606	Explosion proof encapsulated electrical part "mb", low power, 22 mm	2.5	2.0	-40°C to +65°C	-	IP65	II 2 GD Ex mb II T4 / T5	281
1.1	482605	Explosion proof encapsulated electrical part "mb", 22 mm	5.0	4.0	-40°C to +65°C	-	IP65	II 2 GD Ex mb II T4 / T5	281
1.2	496131	Coil for DIN plug connection, double frequency, 22 mm	3.0	3.0	-40°C to +50°C	-	IP65	-	262
1.2	496482	Coil for DIN plug connection, double frequency coil, 22 mm	3.0	3.0	-40°C to +50°C	-	IP65	-	263
1.2	496637	Explosion proof electrical part "nc AC", 22 mm, double frequency	3.0	3.0	-40°C to +50°C	-	IP65	II 3 D Ex tc IIC T95°C	273
2.0/2.1	481000	Coil with screw terminal, 40 mm	8.0	8.0	-40°C to +50°C	-	IP 44 to 67	-	267
2.0/2.1	485100	Coil with screw terminal, high temperature, 40 mm	8.0	8.0	-40°C to +50°C	-	IP 44 to 67	-	269
2.0/2.1	481865	Coil for DIN plug connection, 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	-	254
2.0/2.1	492453	Coil for DIN plug connection, high temperature, 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	-	255
2.0/2.1	496081	Coil with flying leads, IP 67, 32 mm	9.0	9.0	-10°C to +50°C	-	IP67	-	265
2.0/2.1	483510	Coil for DIN plug connection, 32 mm	-	9.0	-40°C to +50°C	-	IP65	-	254
2.0/2.1	483520	Coil with screw terminal, double frequency, 40 mm	-	9.0	-40°C to +50°C	-	IP 44 to 67	-	267
2.0/2.1	491514	Coil for DIN plug connection, 32 mm, UL	-	11.0	-40°C to +50°C	●	IP65	-	258
2.0/2.1	495875	Explosion proof electrical part "nc AC", 32 mm	7.0	6.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	276
2.0/2.1	495870	Explosion proof electrical part "nc AC", 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	274
2.0/2.1	496110	Explosion proof electrical part "nc AC", 32 mm	-	9.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3 / T4	274
2.0/2.1	492670	Explosion proof encapsulated electrical part "mb", 32 mm	9.0	8.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T4	282
2.0/2.1	492070	Explosion proof encapsulated electrical part "mb", with water proof metal housing, 50 mm	8.0	9.0	-40°C to +65°C	-	IP67	II 2 GD Ex mb II T4 / T5	283
2.0/2.1	493640	Flame proof encapsulated electrical part "db mb", double frequency	8.0	8.0	-40°C to +75°C	-	IP65	II 2 GD Ex db mb IIC T4	290
2.0/2.1	495905	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	287
2.0/2.1	494040	Explosion proof increased safety electrical part "eb", 50 mm	8.0	8.0	-40°C to +90°C	-	IP67	II 2 GD Ex eb IIC T3 / T4	291
2.0/2.1	483371	Explosion proof increased safety electrical part "eb", 50 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex eb IIC T4	291
2.0/2.1	492190	Explosion proof increased safety and encapsulated electrical part "eb", 50 mm	9.0	11.0	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T3 / T4	294
2.0/2.1	HZ10	Explosion proof encapsulated electrical part "mb", double frequency	8.0	8.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T4 / T5	284
2.0/2.2	486265	Coil with screw terminal, high temperature-high power, 40 mm	14.0	14.0	-40°C to +50°C	-	IP 44 to 67	-	269
2.0/2.2	492425	Coil for DIN plug connection, high temperature, 32 mm	14.0	14.0	-40°C to +50°C	-	IP65	-	255

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2.0/2.2	481044	Coil with screw terminal High power, 40 mm	-	14.0	-40°C to +50°C	-	IP 44 to 67	-	268
2.0/2.2	495880	Explosion proof electrical part "nc AC", 32 mm	14.0	14.0	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T3	277
2.0/2.2	496082	Coil with flying leads, IP 67, 32 mm, UL	16.0	13.0-14.0	-40°C to +120°C	●	IP67	-	266
2.0/2.2	496155	Explosion proof increased safety electrical part "nc AC", 50 mm	14.0	14.0	-40°C to +65°C	-	IP67	II 3 GD Ex nc AC IIC T3	279
2.0/2.2	HZ11	Explosion proof encapsulated electrical part "mb", double frequency	14.0	14.0	-40°C to +50°C	-	IP65	II 2 GD Ex mb II T4 / T5	285
3.0	482730	Coil for DIN plug connection, reduced power, 32 mm	7.0	6.0	-40°C to +50°C	-	IP65	-	256
4.0	485400	Coil with screw terminal, bistable, for impulse applications, 40 mm	13.0	-	-40°C to +50°C	-	IP44	-	270
4.0	484990	Coil with screw terminal, bistable, for impulse applications, 40 mm	-	11.0	-40°C to +50°C	-	IP44	-	270
4.0	495915	Explosion proof increased safety electrical part "nc AC", 50 mm	13.0	11.0	-40°C to +65°C	-	IP67	II 3 GD Ex nc AC IIC T3	278
6.0	482740	Coil for DIN plug connection, low power, 32 mm	1.6	-	-40°C to +50°C	-	IP65	-	257
6.0	496125	Explosion proof electrical part "nc AC", low power, 32 mm	1.6	-	-40°C to +50°C	-	IP65	II 3 GD Ex nc AC IIC T5 / T6	275
6.0	495900	Flame proof encapsulated electrical part "db mb", low power, 37 mm	2.0	2.5	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	286
7.0	483580.01	Explosion proof intrinsically safe electrical part "ia", 32 mm	3.0	-	-40°C to +55°C	-	IP65	II 1 GD Ex ia IIC T6	295
7.0	488650.01	Explosion proof intrinsically safe electrical part "ia", 50 mm	0.3 to 3.0	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	300
8.0	495910	Explosion proof intrinsically safe electrical part "ia", "booster", 37 mm	0.3 to 1.2.0	-	-40°C to +80°C	-	IP67	II 1 GD Ex ia IIC T6 / T5 / T4	296
9.0	492210	Explosion proof increased safety and encapsulated electrical part "eb", " Booster", 50 mm	1.0 to 1.8	-	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T5 / T6	293
9.0	496565	Explosion proof intrinsically safe electrical part "ia", " Booster", 37 mm	0.77 to 2.58	-	-40°C to +80°C	-	IP67	II 1 GD Ex ia IIC T6 / T5 / T4	297
9.0	492965.01	Explosion proof intrinsically safe electrical part "ia", " Booster", 50 mm	0.3 to 2.3	-	-40°C to +65°C	-	IP66	II 1 GD Ex ia IIC T6	298
10.1	496895	Coil for DIN plug connection for oil and gas, 37 mm	8.0	8.0	-40°C to +50°C	-	IP65	-	264
10.1	496560	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	288
10.1	496800	Flame proof encapsulated electrical part "db mb", 37 mm	8.0	8.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4	289
10.1	492310	Explosion proof increased safety and encapsulated electrical part "eb", 50 mm	6.0	6.0	-40°C to +75°C	-	IP66	II 2 GD Ex eb mb II T4 / T5	292
10.2	496555	Flame proof encapsulated electrical part "db mb", 37 mm	6.0	6.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	288
10.2	496700	Flame proof encapsulated electrical part "db mb", 37 mm	6.0	6.0	-40°C to +65°C	-	IP67	II 2 GD Ex db mb IIC T4 / T5 / T6	289
10.3	497105	Flame proof electrical part "d"	8.0	8.0	-50°C to +80°C	-	IP66	Ex db IIC T4 / T5 / T6	280
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NOTES

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

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Helicopters
Launch vehicles
Military aircraft
Missiles
Power generation
Regional transports
Unmanned aerial vehicles

Key Products

Control systems & actuation products
Engine systems & components
Fluid conveyance systems & components
Fluid metering, delivery & atomization devices
Fuel systems & components
Fuel tank inerting systems
Hydraulic systems & components
Thermal management
Wheels & brakes



Climate Control

Key Markets

Agriculture
Air conditioning
Construction Machinery
Food & beverage
Industrial machinery
Life sciences
Oil & gas
Precision cooling
Process
Refrigeration
Transportation

Key Products

Accumulators
Advanced actuators
CO₂ controls
Electronic controllers
Filter driers
Hand shut-off valves
Heat exchangers
Hose & fittings
Pressure regulating valves
Refrigerant distributors
Safety relief valves
Smart pumps
Solenoid valves
Thermostatic expansion valves



Hydraulics

Key Markets

Aerial lift
Agriculture
Alternative energy
Construction machinery
Forestry
Industrial machinery
Machine tools
Marine
Material handling
Mining
Oil & gas
Power generation
Refuse vehicles
Renewable energy
Truck hydraulics
Turf equipment

Key Products

Accumulators
Cartridge valves
Electrohydraulic actuators
Human machine interfaces
Hybrid drives
Hydraulic cylinders
Hydraulic motors & pumps
Hydraulic systems
Hydraulic valves & controls
Hydrostatic steering
Integrated hydraulic circuits
Power take-offs
Power units
Rotary actuators
Sensors



Pneumatics

Key Markets

Aerospace
Conveyor & material handling
Factory automation
Life science & medical
Machine tools
Packaging machinery
Transportation & automotive

Key Products

Air preparation
Brass fittings & valves
Manifolds
Pneumatic accessories
Pneumatic actuators & grippers
Pneumatic valves & controls
Quick disconnects
Rotary actuators
Rubber & thermoplastic hose & couplings
Structural extrusions
Thermoplastic tubing & fittings
Vacuum generators, cups & sensors





Electromechanical

Key Markets

Aerospace
Factory automation
Life science & medical
Machine tools
Packaging machinery
Paper machinery
Plastics machinery & converting
Primary metals
Semiconductors & electronics
Textile
Wire & cable

Key Products

AC/DC drives & systems
Electric actuators, gantry robots & slides
Electrohydraulic actuation systems
Electromechanical actuation systems
Human machine interface
Linear motors
Stepper motors, servo motors, drives & controls
Structural extrusions



Filtration

Key Markets

Aerospace
Food & beverage
Industrial plant & equipment
Life sciences
Marine
Mobile equipment
Oil & gas
Power generation & renewable energy
Process
Transportation
Water Purification

Key Products

Analytical gas generators
Compressed air filters & dryers
Engine air, coolant, fuel & oil filtration systems
Fluid condition monitoring systems
Hydraulic & lubrication filters
Hydrogen, nitrogen & zero air generators
Instrumentation filters
Membrane & fiber filters
Microfiltration
Sterile air filtration
Water desalination & purification filters & systems



Fluid & Gas Handling

Key Markets

Aerial lift
Agriculture
Bulk chemical handling
Construction machinery
Food & beverage
Fuel & gas delivery
Industrial machinery
Life sciences
Marine
Mining
Mobile
Oil & gas
Renewable energy
Transportation

Key Products

Check valves
Connectors for low pressure fluid conveyance
Deep sea umbilicals
Diagnostic equipment
Hose couplings
Industrial hose
Mooring systems & power cables
PTFE hose & tubing
Quick couplings
Rubber & thermoplastic hose
Tube fittings & adapters
Tubing & plastic fittings



Process Control

Key Markets

Alternative fuels
Biopharmaceuticals
Chemical & refining
Food & beverage
Marine & shipbuilding
Medical & dental
Microelectronics
Nuclear Power
Offshore oil exploration
Oil & gas
Pharmaceuticals
Power generation
Pulp & paper
Steel
Water/wastewater

Key Products

Analytical Instruments
Analytical sample conditioning products & systems
Chemical injection fittings & valves
Fluoropolymer chemical delivery fittings, valves & pumps
High purity gas delivery fittings, valves, regulators & digital flow controllers
Industrial mass flow meters/controllers
Permanent no-weld tube fittings
Precision industrial regulators & flow controllers
Process control double block & bleeds
Process control fittings, valves, regulators & manifold valves



Sealing & Shielding

Key Markets

Aerospace
Chemical processing
Consumer
Fluid power
General industrial
Information technology
Life sciences
Microelectronics
Military
Oil & gas
Power generation
Renewable energy
Telecommunications
Transportation

Key Products

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Elastomeric o-rings
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EMI shielding
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