aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

ADEX

Miniature Directional Control Valves

PDE2622TCUK January 2010

Parker

ENGINEERING YOUR SUCCESS.

Summary

Page

Presentation	3
Adex valves overview	4-5
A05/A12 Series characteristics	6
A05R/A12R Series valves order codes	7
A05R/A12R Series manifolds order codes	8
A05P/A12P Series valves order codes	9
A05P/A12P Series manifolds order codes	10
A05/A12 Series accessories order codes	11
A05R/A12R in-line valves dimensions	12
A05R/A12R manifolds dimensions	13
A05P/A12P sub-bases valves dimensions	14
A05P/A12P manifolds dimensions	15

Important !
Before carrying out any service work, ensure that the valve and manifold have been vented. Remove the primary supply air hose to ensure total disconnection of the air supply before dismantling valves or blank connection blocks.

NB !
All technical data in this catalogue is typical only.

The air quality is decisive for the valve life: see ISO 8573.

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS 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 and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met. The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

SALE CONDITIONS

The items described in this document are available for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. Any sale contract entered into by Parker will be governed by the provisions stated in Parker's standard terms and conditions of sale (copy available upon request).

A05 Series
A12 Series

Compact body with large flow
It allows flexibility on your applications saving space and reducing costs.
These series is most suitable for driving cylinders of Ø10 to Ø100 in diameter.

Quick response time, faster than 10 ms
(A05 series, Single solenoid)
Uniquely designed pilot valve with fast response time and low power consumption.

Tested life time more than 50,000,000 times
(Based on Parker laboratory test conditions)
ADEX valves feature the well-reputed WCS (Wear Compensation System) in the main spool, resulting in low sliding friction and long service life.

Low power consumption only 0,6 W
(With indicator light and surge suppressor)
Direct drive from PLC is possible, contributing to cost reduction as well as down sizing of the DC power supply.

Multipin connector version
Connection by sub-D25 on sub-base.

In-line or sub bases mounted (side ported) versions

A05 **5/2 and 5/3 versions**

Body width **10** mm

Output ports **M5**

A12 **5/2 and 5/3 versions**

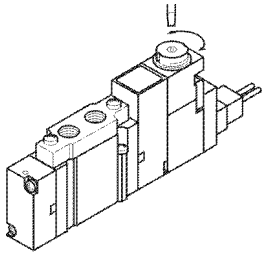
Body width **15** mm

Output ports **G1/8**

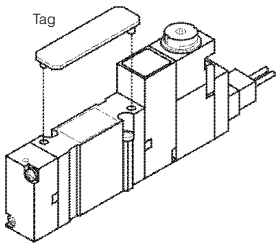
Captured exhaust from main valve and pilot valve
(Sub-base mounting type)
Exhaust air from pilot valve is captured together with exhaust air from main valve.

Unlike conventional exhaust systems, exhaust air from pilot valve is not directly discharged to outside.
This takes to prevent air contamination in the atmosphere.

Manual override
Screwdriver-operated manual override is standard.



Multipurpose tag available
For the convenience of installation, testing, maintenance tag can be mounted on the upside of solenoid valve body.



Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

In-line IEM Valves

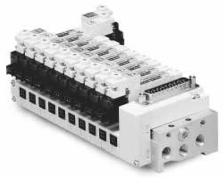
Series	A05R	A12R
Internal Pilot Supply	●	●
Single Solenoid 5/2	●	●
Double Solenoid 5/2	●	●
Closed Centre 5/3	●	●
Vented Centre 5/3	●	●
Pressurised Centre 5/3	●	●
Indicator LED & Surge Suppressor	●	●
Manual Override	●	●
In-line Mounting	●	●
IEM Manifold Mounting	●	●
Sub-base Mounting		
Electrical Collective Wiring	●	●
Port Sizes	M5	G1/8

Diameter of controlled cylinder
Pressure : 5 bar
Load factor : 0.5
Cylinder speed m/s :

Tube lenght : 1 m
Tube diameter : A05 : 6 x 4 mm
A12 : 8 x 6 mm

	A05R 0,15	A05R 0,30	A05R 0,45	A05R 0,60	A05R 0,75	A12R 0,15	A12R 0,30	A12R 0,45	A12R 0,60	A12R 0,75
Ø 6										
Ø 10										
Ø 16										
Ø 20										
Ø 25										
Ø 32										
Ø 40										
Ø 50										
Ø 63										
Ø 80										
Ø 100										

Sub-base Mounted Valves



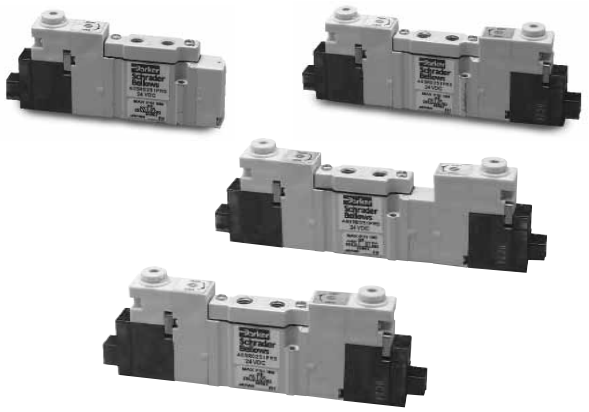
Series	A05P	A12P
Internal Pilot Supply	●	●
Single Solenoid 5/2	●	●
Double Solenoid 5/2	●	●
Closed Centre 5/3	●	●
Vented Centre 5/3	●	●
Pressurised Centre 5/3	●	●
Indicator LED & Surge Suppressor	●	●
Manual Override	●	●
In-line Mounting		
IEM Manifold Mounting		
Sub-base Mounting	●	●
Electrical Collective Wiring	●	●
Port Sizes	M5	G1/8

Diameter of controlled cylinder
Pressure : 5 bar
Load factor : 0.5
Cylinder speed m/s :

Tube lenght : 1 m
Tube diameter : A05 : 6 x 4 mm
A12 : 8 x 6 mm

	0,15	0,30	0,45	0,60	0,75	0,15	0,30	0,45	0,60	0,75
Ø 6										
Ø 10										
Ø 16										
Ø 20										
Ø 25										
Ø 32										
Ø 40										
Ø 50										
Ø 63										
Ø 80										
Ø 100										

- 0,6 W low power solenoid
- Fast response time
- Vacuum version available on request
- Impulse and turn to lock manual override



Operating information

Working pressure : 5/2 monos. 1,5 to 7,1 bar
5/2 bistable 1 to 7,1 bar
5/3 CC, CV, CP 2 to 7,1 bar
Working temperature : -5°C to +50°C
Storage temperature : -40°C to +70°C
Fluid : air or gaz 50µm filtered lubricated or not

Response time :

(V DC)		Response time : ms 5/2 monos.	5/2 bi.	5/3
A05R	On	10	10	10
	Off	10	-	15
A12R	On	15	10	12
	Off	18	-	36
A05P	On	10	10	10
	Off	10	-	15
A12P	On	15	10	12
	Off	18	-	36

*Cv measurement : there are several ways to determine Cv valves, resulting in some Cv been overstated by 20 to 40%. This can adversely affect the user's application because the valve flows less than the quoted Cv.
Parker's Cv valve is calculated using the ANSI (NFPA) T3-21-3-1990 standard. The ANSI (NFPA) method is a structured test using very specific tube sizes and length, inlet pressures, pressures drop and volume chambers.

Expected mechanical life with dry air at 6 bar 20°C 1 Hz : 50 million cycles
Orientation : any plane
Maximum operating frequency : cycles/min. : : 5/2; 600 (10Hz) - 5/3; 500
Degree of protection : IP 40

Note : Above mentionned datas apply for intermittent duty, for continuous duty : please consult us.

Operating voltage : 12 and 24 VDC
-10% to +10% intermittent duty
and -10% to 0% continuous duty
Surge suppression : Diode for DC version
Consumption : 0,55 W (without LED)
0,6W (with LED indicator light)
Wiring : Connector 2,54mm pin spacing

Flow characteristics

		5/2 monostable	5/2 bistable	5/3 close center
In-line IEM		**A05RS25**	**A05RD25**	**A05RD35**
A05	Cv*	0,17	0,17	0,16
In-line IEM		**A12RS25**	**A12RD25**	**A12RD35**
A12	Cv*	0,47	0,47	0,43
Sub-base		**A05PS25**	**A05PD25**	**A05PD35**
A05	Cv*	0,18	0,18	0,16
Sub-base		**A12PS25**	**A12PD25**	**A12PD35**
A12	Cv*	0,44	0,44	0,40

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

Main data for directional control valves A05R and A12R series

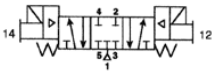
Electrically actuated 5/2 single solenoid

Symbol	Threaded connection	Voltage	Order code
	M5	24 VDC	**A05RS251PM5MF**
	G1/8	24 VDC	**A12RS251PG1MF**

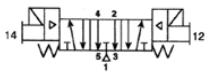
Electrically actuated 5/2 double solenoid

Symbol	Threaded connection	Voltage	Order code
	M5	24 VDC	**A05RD251PM5MF**
	G1/8	24 VDC	**A12RD251PG1MF**

Electrically actuated 5/3 closed centre

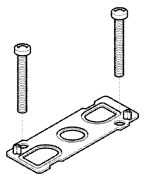
Symbol	Threaded connection	Voltage	Order code
	M5	24 VDC	**A05RD351PM5MF**
	G1/8	24 VDC	**A12RD351PG1MF**

Electrically actuated 5/3 vented centre

Symbol	Threaded connection	Voltage	Order code
	M5	24 VDC	**A05RE351PM5MF**
	G1/8	24 VDC	**A12RE351PG1MF**

Electrically actuated 5/3 pressurised centre

Symbol	Threaded connection	Voltage	Order code
	M5	24 VDC	**A05R0351PM5MF**
	G1/8	24 VDC	**A12R0351PG1MF**



Gasket and screws for IEM mounting supplied with each valve

Main data for manifolds for directional control valves A05R/A12R series

Manifold for in-line valve with individual electric connector

No. of stations	Port size	Size	Order Code
4	M5	A05	**MMFU4A05G**
	G1/8	A12	**MMFU4A12G**
6	M5	A05	**MMFU6A05G**
	G1/8	A12	**MMFU6A12G**
8	M5	A05	**MMFU8A05G**
	G1/8	A12	**MMFU8A12G**
10	M5	A05	**MMFU10A05G**
	G1/8	A12	**MMFU10A12G**
12	M5	A05	**MMFU12A05G**
	G1/8	A12	**MMFU12A12G**

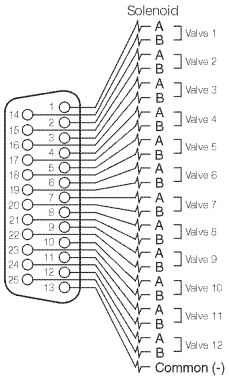
Manifold for in-line valve with Sub-D collective wiring module

No. of stations	Port size	Size	Order Code
4	M5	A05	**MMCU4A05G**
	G1/8	A12	**MMCU4A12G**
6	M5	A05	**MMCU6A05G**
	G1/8	A12	**MMCU6A12G**
8	M5	A05	**MMCU8A05G**
	G1/8	A12	**MMCU8A12G**
10	M5	A05	**MMCU10A05G**
	G1/8	A12	**MMCU10A12G**
12	M5	A05	**MMCU12A05G**
	G1/8	A12	**MMCU12A12G**

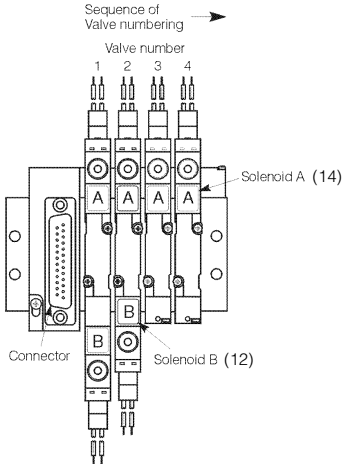
Collective wiring add-on module

No. of stations	Size	Order Code
4	A05	**MCS4A05PDL**
	A12	**MCS4A12PDL**
6	A05	**MCS6A05PDL**
	A12	**MCS6A12PDL**
8	A05	**MCS8A05PDL**
	A12	**MCS8A12PDL**
10	A05	**MCS10A05PDL**
	A12	**MCS10A12PDL**
12	A05	**MCS12A05PDL**
	A12	**MCS12A12PDL**

Collective wiring pin mapping



Pin map for Sub-D25 connector



Valve and solenoid addresses

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

Main data for directional control valves A05P/A12P series

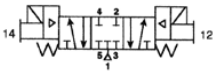
Electrically actuated 5/2 single solenoid

Symbol	Voltage	Size	Order code
	24 VDC	A05	**A05PS251P**
	24 VDC	A12	**A12PS251P**

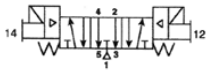
Electrically actuated 5/2 double solenoid

Symbol	Voltage	Size	Order code
	24 VDC	A05	**A05PD251P**
	24 VDC	A12	**A12PD251P**

Electrically actuated 5/3 closed centre

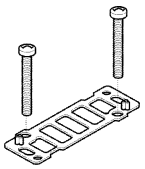
Symbol	Voltage	Size	Order code
	24 VDC	A05	**A05PD351P**
	24 VDC	A12	**A12PD351P**

Electrically actuated 5/3 vented centre

Symbol	Voltage	Size	Order code
	24 VDC	A05	**A05PE351P**
	24 VDC	A12	**A12PE351P**

Electrically actuated 5/3 pressurised centre

Symbol	Voltage	Size	Order code
	24 VDC	A05	**A05P0351P**
	24 VDC	A12	**A12P0351P**



Gasket and screws supplied with each valve.

Main data for manifolds for directional control valves A05P/A12P series

Manifold side ported BSPP thread, for valves with individual electrical wiring

No. of stations	Port size	Size	Order Code
4	M5	A05	**MMFS4A05GM5**
	G1/8	A12	**MMFS4A12GG1**
6	M5	A05	**MMFS6A05GM5**
	G1/8	A12	**MMFS6A12GG1**
8	M5	A05	**MMFS8A05GM5**
	G1/8	A12	**MMFS8A12GG1**
10	M5	A05	**MMFS10A05GM5**
	G1/8	A12	**MMFS10A12GG1**
12	M5	A05	**MMFS12A05GM5**
	G1/8	A12	**MMFS12A12GG1**

Manifold side ported BSPP thread, for Sub D-collective wiring module

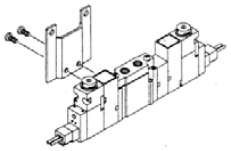
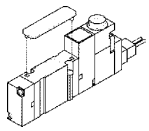
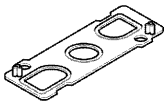
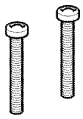
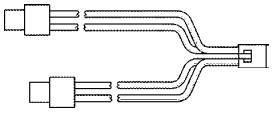
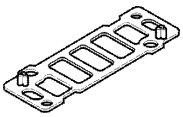
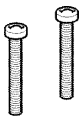
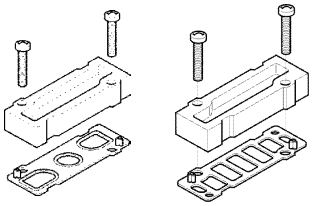
No. of stations	Port size	Size	Order Code
4	M5	A05	**MMCS4A05GM5**
	G1/8	A12	**MMCS4A12GG1**
6	M5	A05	**MMCS6A05GM5**
	G1/8	A12	**MMCS6A12GG1**
8	M5	A05	**MMCS8A05GM5**
	G1/8	A12	**MMCS8A12GG1**
10	M5	A05	**MMCS10A05GM5**
	G1/8	A12	**MMCS10A12GG1**
12	M5	A05	**MMCS12A05GM5**
	G1/8	A12	**MMCS12A12GG1**

Collective wiring add-on module (supplied with mounting screws) for MMCS... manifolds

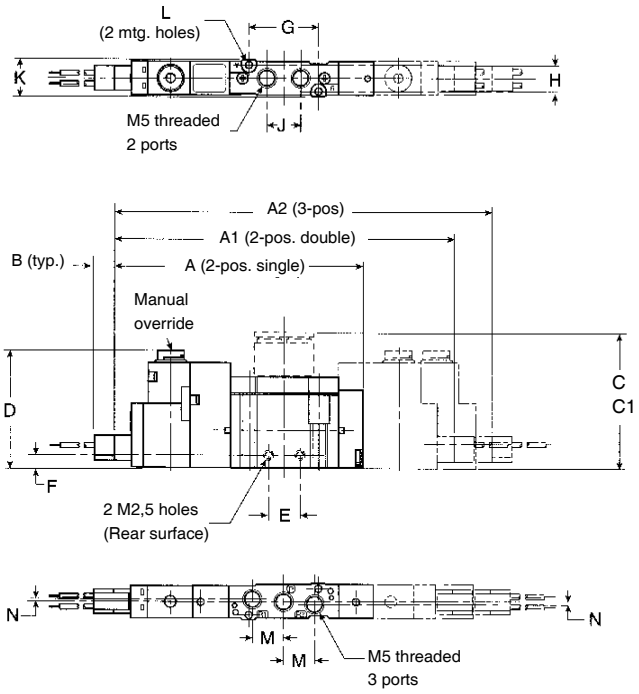
No. of stations		Size	Order Code
4		A05	**MCS4A05PDL**
		A12	**MCS4A12PDL**
6		A05	**MCS6A05PDL**
		A12	**MCS6A12PDL**
8		A05	**MCS8A05PDL**
		A12	**MCS8A12PDL**
10		A05	**MCS10A05PDL**
		A12	**MCS10A12PDL**
12		A05	**MCS12A05PDL**
		A12	**MCS12A12PDL**

For wiring pin mapping see page 8

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

	Description	Order code
	Connector with lead wire black (-), red (+), length 500mm	**A05PDCCL5**
	Connector with lead wire black (-), red (+), length 1000mm	**A05PDCCL10**
	Mounting bracket A05R (1 bracket with 2 screws)	**A05RBS**
	Mounting bracket A12R (1 bracket with 2 screws)	**A12RBS**
	Identification tag for sub-base valves (pack of 10)	**A05PN**
	IEM gasket (pack of 10) for A05R/A12R	**A05RG** **A12RG**
	IEM mounting screws (pack of 20) for A05R/A12R	**A05RS** **A12RS**
	Collective wiring connector Single solenoid PNP	**A05PSCCM** **A12PSCCM**
	Collective wiring connector Double solenoid PNP	**A05PDCCM** **A12PDCCM**
	Sub-base gasket (pack of 10) for A05P/A12P	**A05PG** **A12PG**
	Sub-base mounting screws (pack of 20) for A05P/A12P	**A05PS** **A12PS**
	IEM blanking plate kit (pack of 5)	**A05RGBP** **A12RGBP**
	Sub-base blanking plate kit (pack of 5)	**A05PGBP** **A12PGBP**

A05R - Single and double operators - Body ported

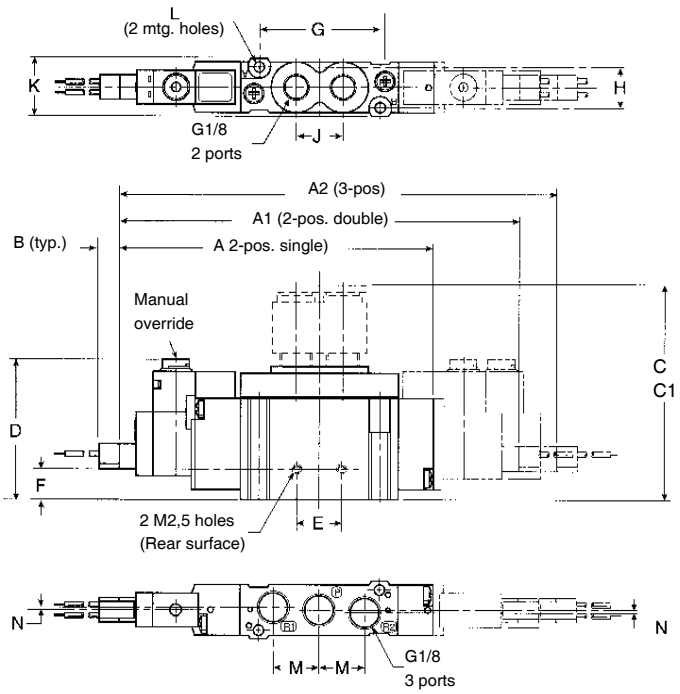


A05R - Body ported

A	A1	A2	B	C
74	100	108	6	-
C1	**D**	**E**	**F**	**G**
-	34,6	9,6	4	21
H	**J**	**K**	**L**	**M**
8,5	10,2	11,4	Ø2,1	9,5
N				
1				

Dimensions in mm

A12R - Single and double operators - Body ported



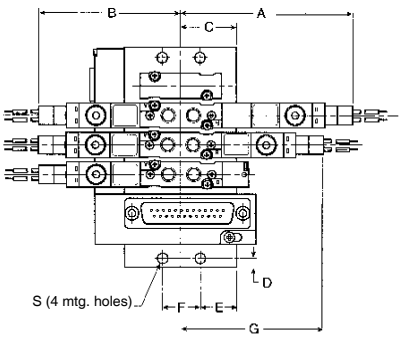
A12R - Body ported

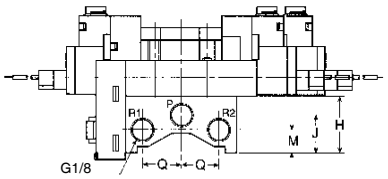
A	A1	A2	B	C
93,5	119	130	6	-
C1	**D**	**E**	**F**	**G**
-	41,6	13,4	9	36
H	**J**	**K**	**L**	**M**
12	14	17,2	Ø3,1	13,6
N				
0,8				

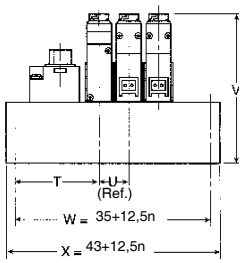
Dimensions in mm

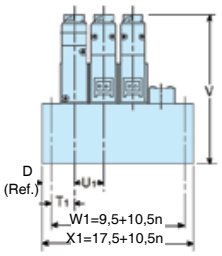
Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

A05R - Manifold - Valve body ports









A05R - Manifold - Valve body port

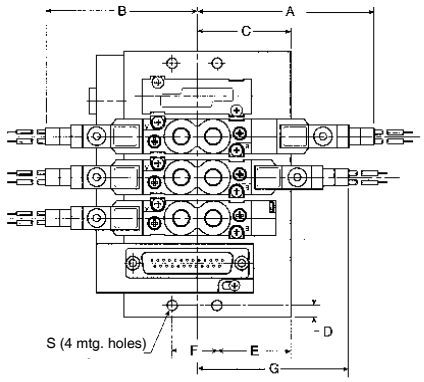
A	B	C	D	E
64	56	23,5	4	15,5
F	**G**	**H**	**J**	**M**
16	56	24	15,5	9,5
Q	**S**	**T**	**T1**	**U**
16	Ø4,5	34	10	12,5
U1	**V**			
10,5	63			

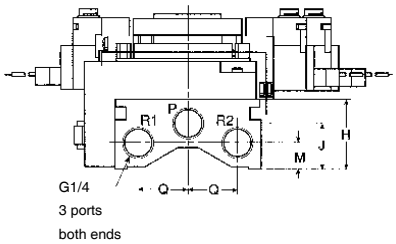
Dimensions in mm

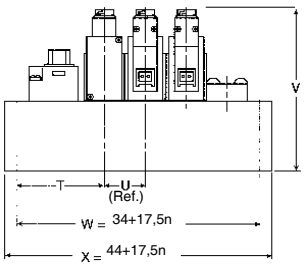
n = number of stations

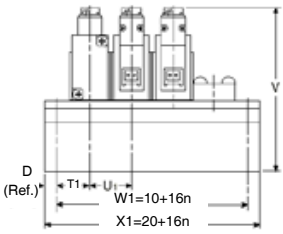
MMCU... **MMFU...**

A12R - Manifold - Valve body ports









A12R - Manifold - Valve body port

A	B	C	D	E
77	66	29	5	19,2
F	**G**	**H**	**J**	**M**
19,6	66	27,5	18	10,5
Q	**S**	**T**	**T1**	**U**
19,5	Ø4,5	37,5	12,2	17,5
U1	**V**			
16	70			

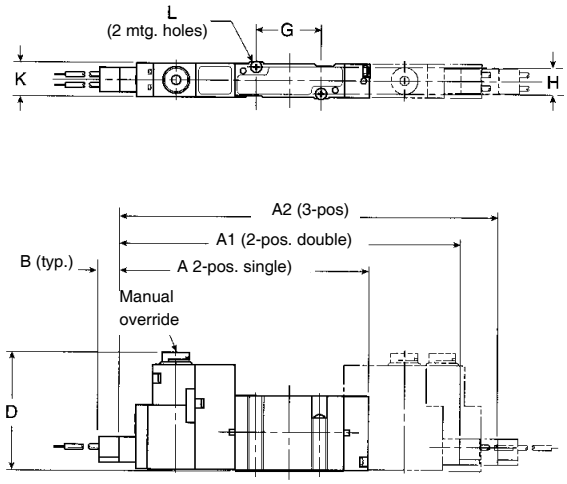
Dimensions in mm

n = number of stations

MMCU... **MMFU...**

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

A05P - Single and double operators - Sub-base



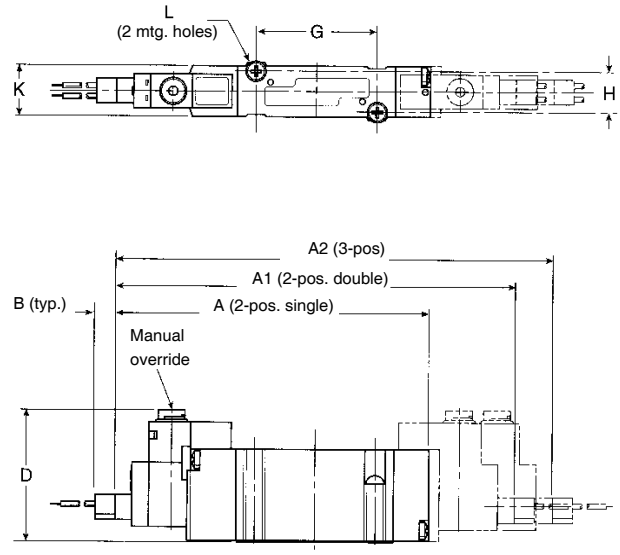
A05P - Sub-base

A	A1	A2	B	D
74	100	108	6	35,1

G	H	K	L
19	8,5	10	Ø2,1

Dimensions in mm

A12P - Single and double operators - Sub-base



A12P - Sub-base

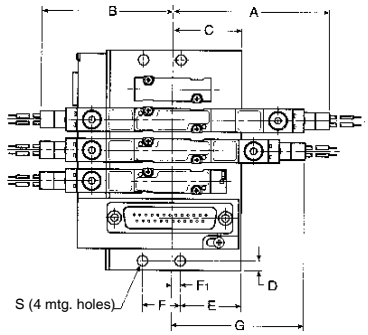
A	A1	A2	B	D
93,5	119	130	6	39,1

G	H	K	L
34	12	15	Ø3,1

Dimensions in mm

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

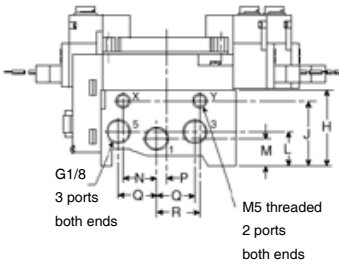
A05P - Manifold - Side ports

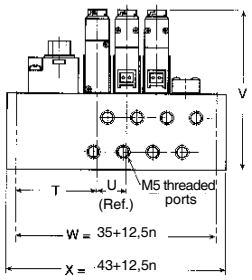


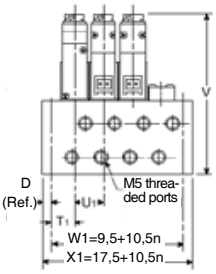
A05P - Manifold - Side ports

A	B	C	D	E
64	56	30,2	4	25,5
F	**F1**	**G**	**H**	**J**
16	4,7	56	32	28
L	**M**	**N**	**P**	**O**
14,5	11,5	14	3	16
R	**S**	**T**	**T1**	**U**
18	Ø4,5	33,8	10	12,5
U1	**V**			
10,5	67			

Dimensions in mm



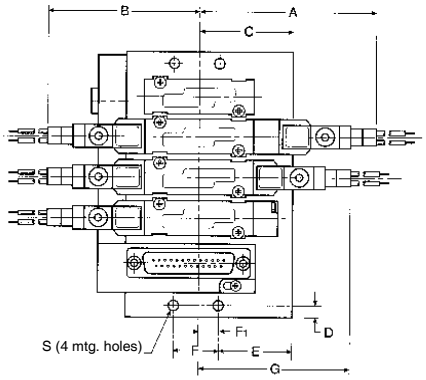




n = number of stations

MMCS... **MMFS...**

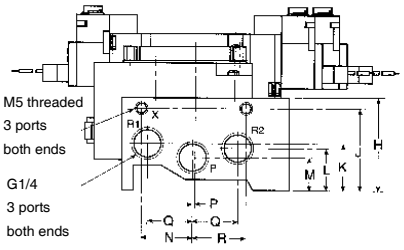
A12P - Manifolds - Side ports

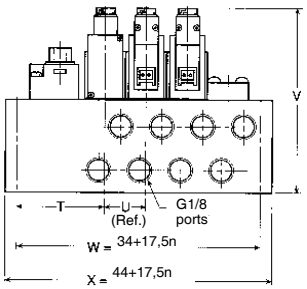


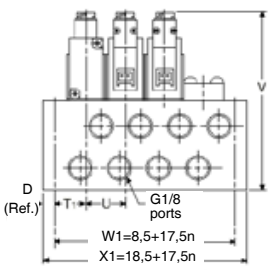
A12P - Manifold - Side ports

A	B	C	D	E
77	66	40,4	5	31,7
F	**F1**	**G**	**H**	**J**
19,6	11	66	39,5	35
K	**L**	**M**	**N**	**P**
20,5	18	14	22	1
Q	**R**	**S**	**T**	**T1**
19,5	23	Ø4,5	37,2	12,7
U	**V**			
17,5	79			

Dimensions in mm







n = number of stations

MMCS... **MMFS...**

Tel: +45 63 12 83 00 | Email: ps@hymatik.com | www.hymatik.com | Hvidkaervej 27a, DK-5250 Odense SV, Denmark

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates, Dubai
Tel: +971 4 8127100
parker.me@parker.com

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles
Tel: +32 (0)67 280 900
parker.belgium@parker.com

BY – Belarus, Minsk
Tel: +375 17 209 9399
parker.belarus@parker.com

CH – Switzerland, Etoy
Tel: +41 (0)21 821 87 00
parker.switzerland@parker.com

CZ – Czech Republic, Klecany
Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup
Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid
Tel: +34 902 330 001
parker.spain@parker.com

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens
Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budapest
Tel: +36 1 220 4155
parker.hungary@parker.com

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty
Tel: +7 7272 505 800
parker.easteurope@parker.com

NL – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Asker
Tel: +47 66 75 34 00
parker.norway@parker.com

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira
Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow
Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga
Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica
Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul
Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev
Tel +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317 878
parker.uk@parker.com

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

North America

CA – Canada, Milton, Ontario
Tel: +1 905 693 3000

US – USA, Cleveland
Tel: +1 216 896 3000

Asia Pacific

AU – Australia, Castle Hill
Tel: +61 (0)2-9634 7777

CN – China, Shanghai
Tel: +86 21 2899 5000

HK – Hong Kong
Tel: +852 2428 8008

IN – India, Mumbai
Tel: +91 22 6513 7081-85

JP – Japan, Tokyo
Tel: +81 (0)3 6408 3901

KR – South Korea, Seoul
Tel: +82 2 559 0400

MY – Malaysia, Shah Alam
Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington
Tel: +64 9 574 1744

SG – Singapore
Tel: +65 6887 6300

TH – Thailand, Bangkok
Tel: +662 186 7000-99

TW – Taiwan, Taipei
Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129

BR – Brazil, Sao Jose dos Campos
Tel: +55 800 727 5374

CL – Chile, Santiago
Tel: +56 2 623 1216

MX – Mexico, Apodaca
Tel: +52 81 8156 6000

European Product Information Centre
Free phone: 00 800 27 27 5374
(from AT, BE, CH, CZ, DE, DK, EE, ES, FI, FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU, SE, SK, UK, ZA)

© 2013 Parker Hannifin Corporation. All rights reserved.

Catalogue PDE2622TCUK January 2010

Parker Hannifin Ltd.
Tachbrook Park Drive
Tachbrook Park,
Warwick, CV34 6TU
United Kingdom
Tel.: +44 (0) 1926 317 878
Fax: +44 (0) 1926 317 855
parker.uk@parker.com
www.parker.com

Your local authorized Parker distributor