Measuring-System

System 100

Nominal Diameter

1,2



Technical Description
The design of the Tema System 100 allows the check of static and dynamic pressures as well as vacuum. With the integrated self-venting device (as standard), it is easy to evacuate any inclusions. This guarantees an accurate display of the measured value, especially with dynamic pressures. The measuring plugs are available with various connection options. They have very small dimensions and can be fitted very easily to the equipment. Thanks to the design and choice of materials, the plugs are maintenance-free. The measuring device with the pressure gauge is fitted with a Tema quick connect coupling. This guarantees coupling to the measuring plugs in a matter of seconds. With the shut-off device in the plug and in the body of the coupling, the Tema System 100 allows a dry break, during coupling as well as during uncoupling. For measuring at a distance, a flexible extension cable is available; this can be coupled between the measuring plug and the measuring system. Thanks to its wide range of connections, the Tema System 100 is a versatile and flexible measuring system.

Maximum Working Pressure
Measuring plug 120: 400 bar
Other parts: 600 bar

Complete Hydraulic Set — System 100

The Tema System 100 Complete Set is delivered in a plastic case and contains the following parts:
1 piece measuring handle 101-2 and pressure gauge of your choice*
1 piece measuring plug 120
1 piece measuring cable 130, length 2,5 m, complete
1 piece adapter 135, G 1/4" i. x G 1/8" o.
1 piece adapter 136, G 1/8" i. x G 1/4" o.

In the measuring case there is additional room for two further pressure gauges as well as an adapter 139. If two pressure gauges are required, the part number is, for example, 107-08 (Complete Set with one pressure gauge 0-250 bar and one pressure gauge 0-400 bar).

* If measuring handle 101-21A is required instead of 101-2, this must be added to the order.

Description	Part Number
Complete set not including pressure gauge	101
Complete set with 1 pressure gauge -1 to +1,5 bar	104
Complete set with 1 pressure gauge 0 to +25 bar	112
Complete set with 1 pressure gauge 0 to +60 bar	114-QC
Complete set with 1 pressure gauge 0 to +250 bar	107-QC
Complete set with 1 pressure gauge 0 to +400 bar	108
Complete set with 1 pressure gauge 0 to +600 bar	109-QC

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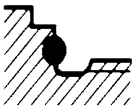
System 100

Measuring Plugs

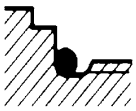
Technical Description
Thanks to their advanced design, the measuring plugs are reliable components in our measuring device. Made of hardened steel. The measuring plugs are maintenance free and are designed for temperatures from -40°C up to +110°C. The integrated valve seals up to a 90% vacuum. All mechanical parts in the measuring plug are made of corrosion resistant materials. Two different type of sealing (see picture on the right side). Available with two different types of covering cap.

- Fully sealed
- Maintenance-free
- Metal-to-metal seal

A Type of seal



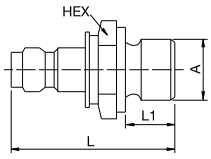
B Type of seal



Maximum Working Pressure
Measuring plug 120: 400 bar
Other parts: 600 bar



Measuring Plugs — System 100



Connection A	Description	Type of seal	L mm	L1 mm	HEX mm	Weight gr.	Part Number
G 1/8	with plastic cap	A	29	7,5	15	20	120
G 1/8	with metal cap	A	29	7,5	15	20	120-126
G 1/4	with plastic cap	A	36	11	18	35	121-125
G 1/4	with metal cap	A	36	11	18	35	121-126
G 1/4	with plastic cap	B	36	11	18	35	122-125
G 1/4	with metal cap	B	36	11	18	35	122-126
M 12 x 1,5	with plastic cap	A	36	11	18	35	123-125
M 12 x 1,5	with metal cap	A	36	11	18	35	123-126
M 14 x 1,5	with plastic cap	A	36	11	20	40	124-125
M 14 x 1,5	with metal cap	A	36	11	20	40	124-126
M 10 x 1	with plastic cap	A	29	7,5	15	40	128-125
M 10 x 1	with metal cap	A	29	7,5	15	40	128-126

Measuring Plug Accessories — System 100



Description	Part Number
Plastic cap made of soft PVC	125-QC
Metal cap with O-ring seal. Quick-lock type coupling on plug.	126K
Extra safety. Up to 750 bar.	
Quick connect coupling for measuring plug with integrated	150
shut-off valve. Seal made of FKM. G 1/8 male thread.	
Adapter coupling female thread G 1/4"	150-137

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System 100

Pressure Gauge / Measuring Handle / Self-Venting Block



Pressure Gauge
- Filled with glycerine – suitable for temperatures to -40°C
- Special seal – quick change
- Measuring accuracy ± 1,6%
- Diameter 63 mm
- Pressure gauge connection G 1/4", male thread
- Scale with double graduation (MPa + bar)

Measuring Handle
Measuring handle 101-2 is used for low pressures up to max. 60 bar.

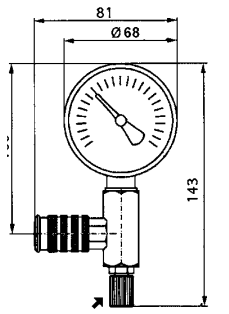
- System 100 – time-saving quick connect couplings
- Shut-off valve in coupling body and plug – dry break

Measuring handle 101-21A can be coupled even under full working pressure.

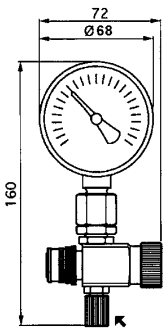
Self-Venting Block
In order to obtain exact measured values (particularly with dynamic pressure measurements), it is essential that there should be no air bubbles trapped between the measuring plug and the pressure gauge. This can be checked simply and effectively with the Tema 100 Measuring System, since the air bubbles can easily be removed. It is possible to vent the system at maximum working pressure by using the venting screw.

Pressure Gauge — System 100

Dimension Pressure gauge + measuring handle:



+ Measuring handle 101-2



+ Measuring handle 101-21A

Description	Part Number
-1 to +1,5 bar	MAN 04
0 to +6 bar	MAN 15
0 to +25 bar	MAN 12
0 to +60 bar	MAN 14
0 to +250 bar	MAN 07
0 to +400 bar	MAN 08
0 to +600 bar	MAN 09
Rubber guard for pressure gauge	100-40

Measuring Handle / Self-Venting Block — System 100

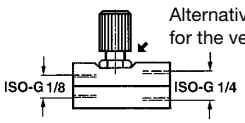


Measuring handle



Measuring handle can be coupled under pressure

Description	Part Number
Measuring handle	101-2
Measuring handle can be coupled under pressure	101-21A



Alternative position for the venting screw

Description	Part Number
Self-venting block	101-3-QC

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System 100

High-Pressure Hoses

Technical Description
Tema high-pressure hose – produced for measurements and mini-hydraulic systems. Exact selection of materials and production under strict control contribute to the satisfaction and reliable safety of the product. Max. working pressure 630 bar.

Material
Inner and outer hose:
high-quality POLYAMIDE
Pressure carrier: KEVLAR

Caution: If the hoses are to be used for compressed air, this must be mentioned in the order.

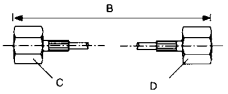
Advantages
- Remains flexible, even under full working pressure, thanks to its small external dimensions and a suitable choice of materials.
- Resistant to all mineral and most synthetic oils
- Resistant to ageing
- No increase in volume (no differences in measurements)
- Temperature range from -40°C up to +100°C

In order to achieve optimal durability, the hoses can be strengthened with a spring at each end. Add-on code "F" after the itemnumber of each connection.



Ordering example for a complete high-pressure hose

	B	C	D
200K PA hose	1,6 Total-length m	210F G1/8" Female thread + spring	240 Pressure gauge connect. G1/4"



Pressures

Type	Work. Pressure	Burst Pressure	Inner Dimens.	Outer Dimens.
200K	630 bar	2000 bar	2,0 mm	4,9 mm

Temperature range from -40°C to +93°C.

Connections — System 100 High-Pressure Hoses

Caution! The hoses are produced in various lengths Please specify hose and/or total length incl. connecting fittings. Design subject to alterations.	Description	DN	Part Number
	G 1/8" female thread	2	210-QC
	G 1/8" male thread	2	220
	Pressure gauge connection G 1/4" female thread	2	240
	M 16 x 2,0 female thread for measuring plug		270

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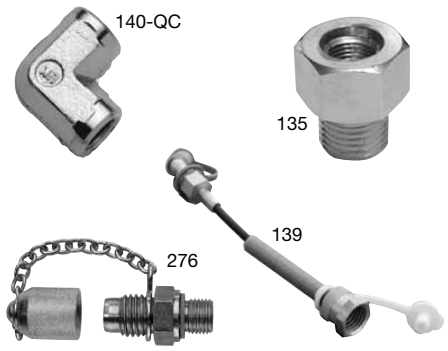
Measuring Cable — System 100

Measuring cables in other designs and lengths on request.

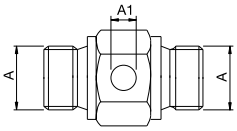


Description	Part Number
Measuring cable for coupling the measuring handle 101-2 to measuring plugs. Supplied as standard with measuring plug (120) and coupling (150): 2,5 m.	130

Accessories — System 100



Thread	Description	Part Number
G 1/4 i. x G 1/8 o.	Adapter (female x male)	135
G 1/8 i. x G 1/4 o.	Adapter (female x male)	136
G 1/8 i. x G 1/4 i.	Adapter (female x female)	137
M 16	Changeover adapter for measuring plug	139
G 1/8 i. x G 1/8 i.	Angle 90° (female x female)	140-QC
	Plastic case (without picture)	101-1
M 16 x 2 / G 1/4	Measuring plug	276
M 16 x 2 / G 3/8	Measuring plug	277



A: G 1/4; A1: G 1/8	Double plug with connecting thread for measuring plug	DNT2-1

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