

DN2 and DN4 High pressure Microbore hose Technical data

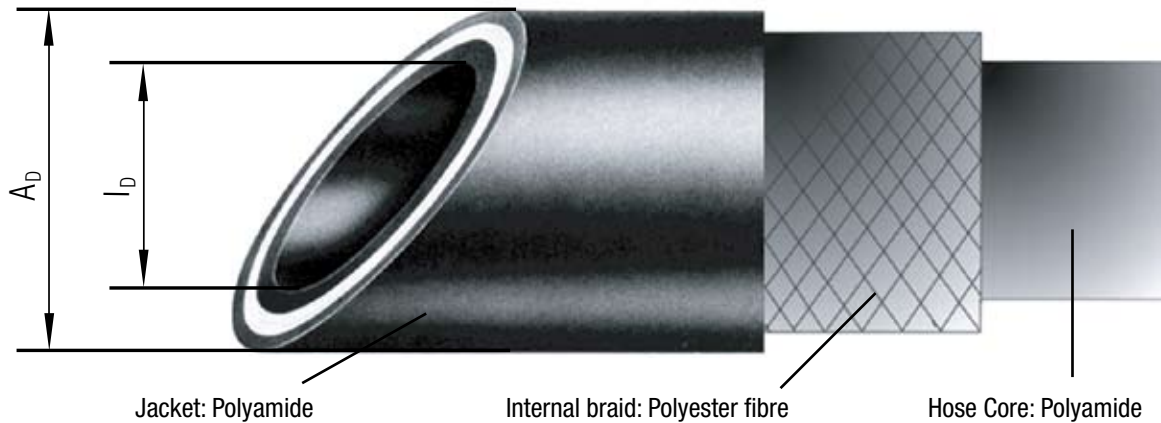
Microbore hose

The microbore hose assembly, most commonly used to connect to a Minimesh® test point for pressure testing, has many other diverse applications.

The hose is available in 2mm and 4mm internal diameter up to 630 bar working pressure. The hose material is extremely flexible, light weight and can be specified for a large range of uses:

- Oils
- Water
- Bleeding
- Gases
- Sampling
- Aggressive media
- Grease
- Permanent installations
- Pressure testing up to 630 bar

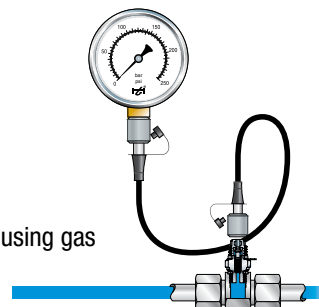
Technical data



Width Nominal	Design	Application	Max working Bar	pB Bar	Id mm	Ad mm	Min. Bend radius	Temperature range	Pressure utilisation factor	
DN2	Standard 400	Perforated hose	400	1040	2	5	20 (below -20°C 30mm)	-20°C up to +100°C short time up to +120°C	0°C 122% 30°C 110% 50°C 100% 80°C 86% 100°C 77% 120°C 68%	
DN2	Standard 630	Perforated hose	630	1950	2	5		40 (below -20°C 60)	-54°C up to +100°C	Example for calculation: MINIMESH®-hose DN 2/630 Bar at 30°C pressure utilisation factor: 630 x 1.10 = 693 Bar
DN2	Low temperature	Perforated hose	630	1950	2	5				
DN4	Standard 315	Perforated hose	315	810	4	8	40 (below -20°C 60)	-20°C up to +100°C short time up to +120°C	Example for calculation: MINIMESH®-hose DN 2/630 Bar at 30°C pressure utilisation factor: 630 x 1.10 = 693 Bar	
DN4	Standard 450	Perforated hose	450	1500	4	8				

Reference of the specified data: 20°C – 3 K

- pn = operating pressure
- pB = bursting pressure
- ID = internal diameter
- AD = external diameter
- rmin = Minimum bend radius of hose
- Perforated hose = Jacket of hose is perforated for applications using gas



20mm bend radius!



Highly flexible

Definition for the tightness of a MINIMESH - hose pipe

“Technically tight” describes systems, part systems and functional elements if the leakage rate amounts to < 0.00001 mbar l s-1.

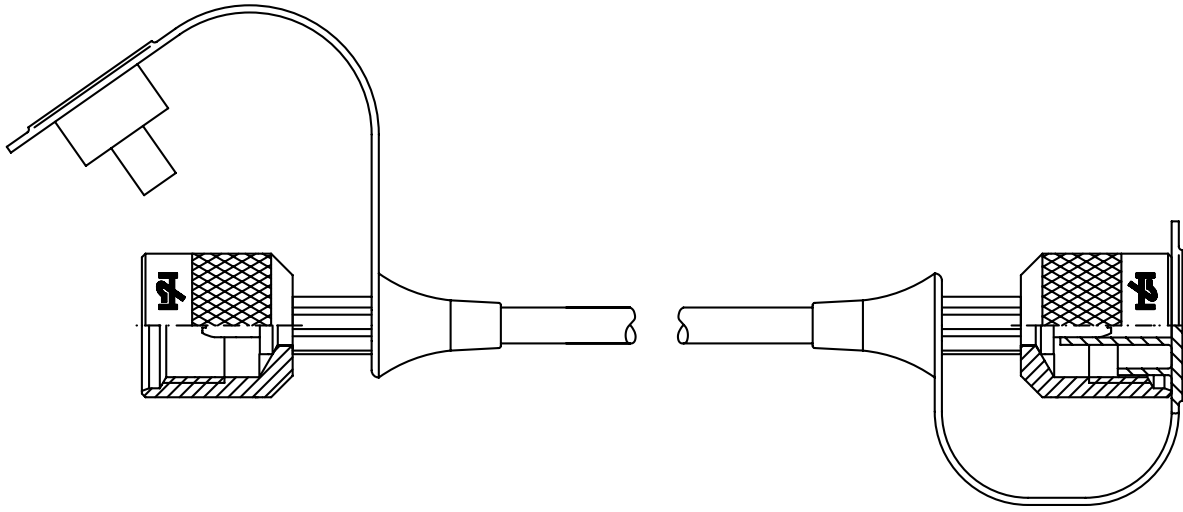
Criteria for selection of hoses and fittings

1. Selection of the hose assembly for the maximum operating pressure (pN):
When ordering a hose assembly, please pay attention to the operating pressures of both the hose material and the connection fitting. The lowest pressure determines the max. operating pressure of the complete hose assembly.
2. Selection of hose assembly for use with different media:
Hose assemblies can be used with different media, as long as the end connections are suitable. To check the compatibility for different media, please contact us.



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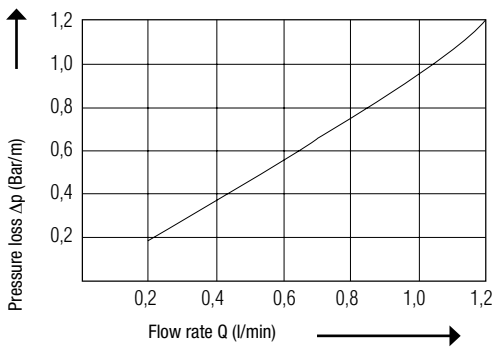
Pressure loss data of hose & hose assembly with 1620 female and fitting:



Safety note: The hose assemblies have to be protected from flames and sharp-edged, hot objects.

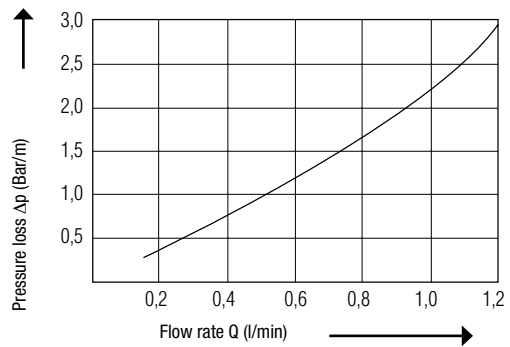
Pressure loss curve of DN 2 hose only

Pressure loss in Bar per metre of hose length without fittings, mineral oil: viscosity 30mm² s⁻¹



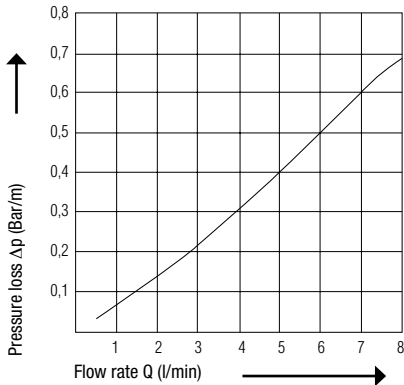
Pressure loss curve of DN 2 hose assemblies

Pressure loss in Bar through a hose assembly with a length of 1 m, with fittings and Test Points of series 1620 on both sides, mineral oil: viscosity 30mm² s⁻¹



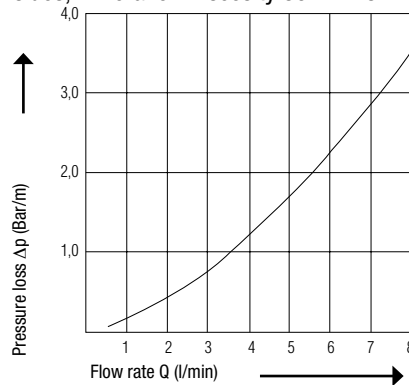
Pressure loss curve of DN 4 hoses

Pressure loss in Bar per metre of hose length without fittings, mineral oil: viscosity 30mm² s⁻¹



Pressure loss curve of DN 4 hose pipes

Pressure loss in Bar through a hose assembly with a length of 1 m, with fittings and test points of series 1604 on both sides, mineral oil: viscosity 30mm² s⁻¹





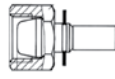
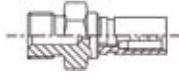
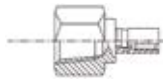


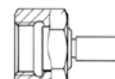

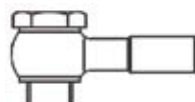
We guarantee a very high quality level of our MINIMESS® systems, as all components are manufactured very precisely and to tight tolerances. All parts in our MINIMESS® systems are easy and safe to use. We reserve the right to carry out technical modifications!

Microbore hose end codes

Picture	Description	Hose code	DN2	DN4
	1215 swivel female with knurled nut	AA	✓	✓
	1615 swivel female with knurled nut	AB	✓	✓
	1620 swivel female with knurled nut	AC	✓	✓
	1604 swivel female with knurled nut	AD	x	✓
	1215 swivel female with in built check valve	AP	✓	x
	1615 swivel female with in built check valve	AQ	✓	x
	1620 swivel female with in built check valve	AR	✓	x
	1604 swivel female with in built check valve	AY	x	✓
	1215 swivel female 90° compact hex nut	AJ	✓	x
	1615 swivel female 90° compact hex nut	AK	✓	x
	1620 swivel female 90° compact hex nut	AL	✓	x
	1215 swivel female test point with hex nut	AM	✓	x
	1615 swivel female test point with hex nut	AN	✓	x
	1620 swivel female test point with hex nut	AO	✓	x
	Steck plug-in test point	AI	✓	x
	ISO228-G1/4" BSP swivel female gauge	FA	✓	✓
	ISO228-G1/2" BSP swivel female gauge	FB	✓	x
	ISO228-G1/4" BSP swivel female gauge 90° swept	FC	✓	x
	ISO228-G1/2" BSP swivel female gauge 90° swept	FD	✓	x
	M12 x 1.5 (6L) Swivel Female 24° Sealing cone	CQ	✓	✓
	M14 x 1.5 (8L) Swivel Female 24° Sealing cone	CR	✓	✓
	M16 x 1.5 (10L) Swivel Female 24° Sealing cone	CS	✓	✓
	M18 x 1.5 (12L) Swivel Female 24° Sealing cone	CT	✓	✓
	M14 x 1.5 (6S) Swivel Female 24° Sealing cone	CU	✓	✓
	M16 x 1.5 (8S) Swivel Female 24° Sealing cone	CV	✓	✓
	M18 x 1.5 (10S) Swivel Female 24° Sealing cone	CW	✓	✓
	M20 x 1.5 (12S) Swivel Female 24° Sealing cone	CX	✓	✓
	M12 x 1.5 (6L) Swivel Female 24° Sealing cone 90° Swept	DA	✓	x
	M14 x 1.5 (8L) Swivel Female 24° Sealing cone 90° Swept	DB	✓	x
	M16 x 1.5 (10L) Swivel Female 24° Sealing cone 90° Swept	DC	✓	x
	M18 x 1.5 (12L) Swivel Female 24° Sealing cone 90° Swept	DD	✓	x
	M14 x 1.5 (6S) Swivel Female 24° Sealing cone 90° Swept	DE	✓	x
	M16 x 1.5 (8S) Swivel Female 24° Sealing cone 90° Swept	DF	✓	x
	M18 x 1.5 (10S) Swivel Female 24° Sealing cone 90° Swept	DG	✓	x
	M20 x 1.5 (12S) Swivel Female 24° Sealing cone 90° Swept	DH	✓	x

Continued on next page

Microbore hose end codes

Picture	Description	Hose code	DN2	DN4
	4mm Standpipe	BA	✓	x
	6mm Standpipe	BB	✓	✓
	8mm Standpipe	BC	✓	✓
	1/4" Standpipe	BD	✓	x
	6mm Standpipe 90° Swept	BG	✓	x
	1/8" BSP swivel female 60° cone seal	FF	✓	x
	1/4" BSP swivel female 60° cone seal	DI	✓	✓
	1/8" BSP fixed male 60° cone seal	FM	✓	x
	1/4" BSP fixed male 60° cone seal	DM	✓	x
	1/8" NPT fixed female	PF	✓	x
	1/4" NPT fixed female	PI	✓	x
	1/8" NPT fixed male	PA	✓	x
	1/4" NPT fixed male	PB	✓	x
	7/16" JIC Swivel Female 37° Cone seal	MJ	✓	x
	9/16" UNF swivel female ORFS	BM	✓	x
	11/16" UNF swivel female ORFS	HC	✓	x
	M10 x 1 Banjo to suit M10 x 1 bolt	IB	✓	x
	M10 x 1 Banjo c/w 10mm bolt	IA	✓	x

Loose hose & accessory codes

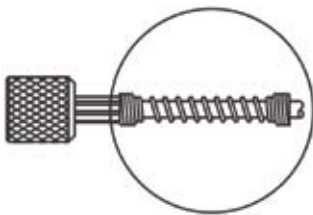
Hose material DN 2 and DN 4



Hose material for self assembly		Part number
Perforated hose, DN 2	40,0 MPa	2020-01-00.31
Perforated hose, DN 2	63,0 MPa	2020-01-00.30
Low temperature, Perforated hose, DN 2	63,0 MPa	2020-01-00.18

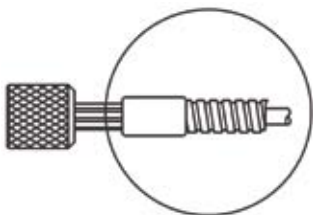
Perforated hose, DN 4	31,5 MPa	2030-01-00.22
Perforated hose, DN 4	45,0 MPa	2030-01-00.24

Anti-buckling spiral



Anti-buckling spiral for self assembly		Part number
Anti-buckling spiral for DN 2		2123-01-00.01
Anti-buckling spiral for DN 4		2133-01-00.01

Aluminium protection braid



Aluminium protection hose for self assembly		Part number
Aluminium protection hose DN 2 In addition to this, 2 pieces end screw sockets are necessary		2121-01-00.01
End screw sockets DN 2		2121-01-00.02



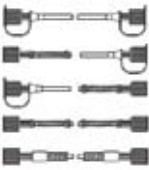

Aluminium protection hose for self assembly		Part number
Aluminium protection hose DN 4 In addition to this, 2 pieces end screw sockets are necessary		2131-01-00.01
End screw sockets DN 4		2131-01-00.02

Other accessories

- Coloured heat shrink jackets
- Hose identification tags
- Customer branded labels
- Hose pressure testing and certification

Contact us for more information

DN2 & DN4 hose assembly ordering chart

Options		Part number			
		S	X	X	X
Material of the fittings		↓	↓	↓	↓
Zinc Nickle Plated Carbon Steel		1			
Stainless Steel		3			
DN2 hose options					
Perforated standard hose	40,0 MPa (400 bar)		0		
Perforated standard hose	63,0 MPa (630 bar)		1		
Perforated low temperature hose	63,0 MPa (630 bar)		2		
DN4 hose options					
Perforated standard hose	31,5 MPa (315 bar)		5		
Perforated standard hose	45,0 MPa (450 bar)		6		
Accessories					
Standard			0		
Anti buckling spring, left side (min. hose length 40 cm)			1		
Anti-buckling spring, right side (min. hose length 40 cm)			2		
Anti-buckling spring both sides (min. hose length 40 cm)			3		
Aluminium protection hose (min. hose length 40 cm)			4		
Hose ends & hose length					
Hose end code 1 (see page 18-19)					
Hose end code 2 (see page 18-19)					
Length L in cm (e.g. 30 cm = 0030 or 500 cm = 0500) Input as a 4-digit group of figures					

Please note: Aluminium overbraid can not be used in conjunction with anti buckle springs

Ordering example: S110-AC-FA-00.63

DN2 (630bar) hose assembly with 1620 female hose end to G1/4" BSP female gauge hose end, 630mm (63cm) long.

Stainless steel wire-braided PTFE bore Microbore hose

Hydrotechnik UK can now offer microbore hose with a stainless steel wire braid & PTFE inner tube. With a large temperature range and rugged construction, this hose will stand up to the harshest of operating conditions. Suitable for most fluids.

Specifications

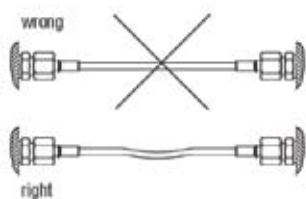
Internal diameter	2mm
External diameter	5mm
Max working pressure	450 bar
Min Bend Radius	13 mm
Temperature range (pressure dependant over 130°C)	-70°C to 260°C

Please use hose code 9 in table above for this hose option e.g **S190-AC-FA-00.63**

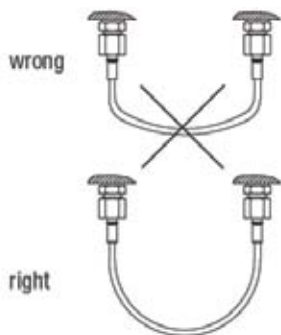


Installation of microbore hose assemblies

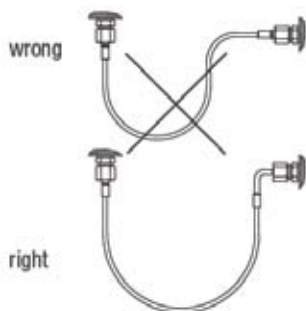
Correct operation & long life is dependent upon the correct installation. Please see below:-



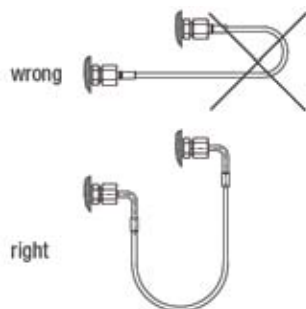
Under load, the length of a hose pipe can change. A shortening causes an additional tensile stress of the hose and the connections. Therefore, the hose pipe needs “slack” in an unpressurised state. Please tighten the union nuts only so far using recommended tightening torques. Further tightening does not improve the operation and can damage the connections.



With curved assemblies, attention has to be paid to the bending radius. Sharp bends should be avoided wherever possible. When calculating the length of a hose assembly, please to pay attention to the fact that the connection fittings are not flexible. The correct calculation of the free hose length between the fittings is therefore essential.



90° hose fittings are also available to aid in the fitting of hose assemblies to maximize life and operation of the assembly.



90° hose fittings can also aid in the fitting of a tidy hose assembly in the tightest of porting requirements.

Notes for operation and installation

In order to guarantee the operability of hoses and to not reduce assembly life by introducing additional strains, the following points have to be taken into consideration:

- Hose assemblies may not be strained during operation by external influences like tension, torsion and upset.
- The smallest mentioned bending radius of the hose must not be exceeded at any time.
- Hose assemblies have to be protected against external damages caused by thermal, chemical or mechanical influences.
- Painting or marking of hose assemblies should be avoided.

Notes for storage of hose and hose assemblies

- Store in cool, dry places and avoid direct UV-irradiation.
- Sources of radiant heat should be avoided.
- Ozone building light fittings and electronic instruments with sparking should be kept away from hoses and hose material (e.g. mercury vapour discharge lamps)
- Optimum storage conditions are temperatures between +15°C and +25°C, a relative air humidity of 65%, as well as shielding against UV-radiation by special UV-impervious foils.
- The storage time should not exceed four years for hose and two years for hose assemblies.