High Pressure Components for Critical Service Applications

Keeping tight at pressures ranging from 7,000 to 100,000 psi:
Valves, fittings and tubing

NOVA SWISS

TECHNOLOGY THAT CHANGES EVERYTHING™

NOVA SWISS® high pressure division develops, produces and supplies world-wide standardized high-pressure components for critical applications involving pressures ranging from 7,250 to 101,500 psi (500 to 7,000 bar).

As one of the leading suppliers of high-pressure components, NOVA SWISS® supplies major companies in the oil and gas exploration and production, petrochemical, machine and industrial equipment building industries, in ultra-pure gas applications and in research and development.

Our commitment is to the fulfillment of the ever-higher safety requirements by serving our customers with dependable quality products.

Contents

We offer you a comprehensive safety system.

High functional reliability in extreme environments.
Our products are based on state-of-the-art technology. Their distinguishing features are proven product development and design, high precision, made-to-fit connection geometries and ease of use. NOVA SWISS® high-pressure components have proven under adverse environmental conditions and high physical strain.

High operating reliability.
NOVA SWISS® high-pressure components are designed and manufactured in compliance with the European machine directives (89/392/EEC). Our integrated management system according to ISO 9001 is your assurance of a top quality, as well as user-friendly and safety-oriented designs.

Longevity of highly-stressed products.
NOVA SWISS® high-pressure components are made of high-grade, corrosion-resistant materials. Material pairings are designed to suit individual application requirements.

The pressure retaining parts of valves, fittings and adapters which are rated up to 2,070 bar (30 kpsi) comply with standard NACE MR0175.

All pressures indicated in this brochure apply for maximum quasi-static load at room temperature.

Traceability.
All pressure retaining parts are manufactured and marked according to specified manufacturing instructions. All of these parts are fully traceable, starting from the finished product and reaching all the way back to the raw material.

Broad product range.
As a leading manufacturer of high-pressure components, we offer a large selection of products for a diversity of applications.

On-time delivery.
Just-in-time delivery directly to customer's assembly lines is standard. We have adopted the modern Kanban manufacturing approach and maintain our own modern production and procurement logistics organization. The on-going measurement of performance factors such as quality, delivery, accuracy, and customer satisfaction provides the customer the assurance that their high standards are met.

Cost reduction is the objective.
NOVA SWISS® products are easy to install and designed to facilitate maintenance. We supply repair instructions with the respective safety information in multiple languages.

Accident prevention is an integral part of our product concept.
NOVA SWISS® high-pressure components are the embodiment of a modern, ergonomic product design. The products are easy to install and to handle. In the development phase, systematic risk analysis was performed and measures implemented for the purpose of excluding risks for the user as much as possible. The safe and dependable assembly and operation of our components is enhanced by detailed operating manuals.

Connections

Medium-pressure connections (MPCT). This coned and threaded connection can be fitted and disconnected several times. The gland and the collar are arranged in line, thereby allowing minimum thickness of the components.

High-pressure connections (HPCT). Coned and threaded connection for high pressures and repeated fitting/unfitting. The gland encloses the collar and reinforces it at the point of maximum load.

“E” high-pressure connections are similar to the “HPCT” high-pressure connections. Only the threads of the glands and female ports are different.

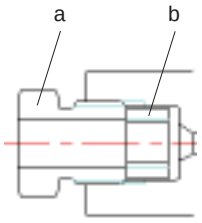
“HPCT”	English thread UNF
“E”	Metric thread according to ISO

Anti vibration assemblies

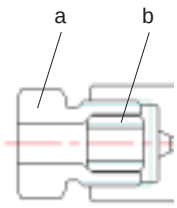
Extensive resistance to vibrations by the clamping action between collar[b] or collet[c] and the tube. The gland is effectively prevented from loosening by the additional radial seizure forces.

The tightness of NOVA SWISS® high- and medium-pressure components is achieved by a metal-to-metal seal, without gasket or sealing ring. Two slightly offset tapers are forced onto one another. Leak-free connections are assured by precision surface machining and fitting accuracy of the connection components.

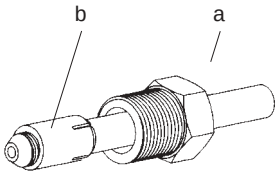
a Gland
b Collar
c Collet
d Gland nut



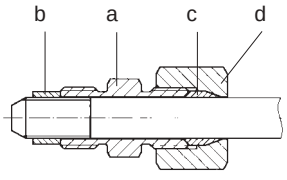
MPCT



HPCT/E



HPCT/E
anti vibration assemblies



MPCT
anti vibration assemblies

Needle valves

Dependability and durability.

NOVA SWISS® needle valves afford a maximum of safety and reliability, even under adverse operating conditions. The valves can be installed in either direction and will effectively seal both gaseous and liquid media.

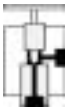
The heart of the valve is the specially shaped seat and the two-piece non-rotating stem. The longevity and dependability of the valves are increased by the fact that the stem will not seize against the seat. Pressure-containing parts are made of high-grade corrosion-resistant stainless steel.

Reliability is documented by using individual serial numbers. We certify every single valve body. For applications with particularly stringent quality standards, we offer a certificate affording the complete traceability of all pressure-retaining parts.

NOVA SWISS® high- and medium-pressure valves are delivered complete with glands and collars.

English connections



Pressure	Connection	Tube-Ø		Orifice		Straight valve	Angle valve	T-valve	Replaceable-seat
10 kpsi	BSPP	1/4"	6.4 mm	0.18"	4.5 mm	NV1-10-4B	NV2-10-4B	NV3-10-4B	--
690 bar		3/8"	9.5 mm	0.26"	6.5 mm	NV1-10-6B	NV2-10-6B	NV3-10-6B	--
		1/2"	12.7 mm	0.30"	7.5 mm	NV1-10-8B	NV2-10-8B	NV3-10-8B	--
10 kpsi	NPT	1/4"	6.4 mm	0.18"	4.5 mm	NV1-10-4N	NV2-10-4N	NV3-10-4N	--
690 bar		3/8"	9.5 mm	0.26"	6.5 mm	NV1-10-6N	NV2-10-6N	NV3-10-6N	--
		1/2"	12.7 mm	0.30"	7.5 mm	NV1-10-8N	NV2-10-8N	NV3-10-8N	--
20 kpsi	MPCT	1/4"	6.4 mm	0.11"	2.8 mm	NV1-20-4M	NV2-20-4M	NV3-20-4M	NV5-20-4M
1,380 bar		3/8"	9.5 mm	0.20"	5.0 mm	NV1-20-6M	NV2-20-6M	NV3-20-6M	NV5-20-6M
		9/16"	14.3 mm	0.30"	7.5 mm	NV1-20-9M	NV2-20-9M	NV3-20-9M	NV5-20-9M
		3/4"	19.1 mm	0.44"	11.1 mm	NV1-20-12M	NV2-20-12M	NV3-20-12M	NV5-20-12M
		1"	25.4 mm	0.56"	14.3 mm	NV1-20-16M	NV2-20-16M	NV3-20-16M	NV5-20-16M
30 kpsi	HPCT	1/4"	6.4 mm	0.09"	2.4 mm	NV1-30-4H	NV2-30-4H	NV3-30-4H	NV5-30-4H
2,070 bar		3/8"	9.5 mm	0.12"	3.0 mm	NV1-30-6H	NV2-30-6H	NV3-30-6H	NV5-30-6H
		9/16"	14.3 mm	0.12"	3.0 mm	NV1-30-9H	NV2-30-9H	NV3-30-9H	NV5-30-9H
60 kpsi	HPCT	1/4"	6.4 mm	0.09"	2.4 mm	NV1-60-4H	NV2-60-4H	NV3-60-4H	NV5-60-4H
4,140 bar		3/8"	9.5 mm	0.12"	3.0 mm	NV1-60-6H	NV2-60-6H	NV3-60-6H	NV5-60-6H
		9/16"	14.3 mm	0.12"	3.0 mm	NV1-60-9H	NV2-60-9H	NV3-60-9H	NV5-60-9H

Metric connections

Pressure	Connection	Tube-Ø		Orifice		Straight valve	Angle valve	T-valve	Replaceable-seat
4,000 bar	E	1/4"	6.4 mm	0.09"	2.4 mm	NV1-40-4E	NV2-40-4E	NV3-40-4E	NV5-40-4E
		3/8"	9.5 mm	0.12"	3.0 mm	NV1-40-6E	NV2-40-6E	NV3-40-6E	NV5-40-6E
		9/16"	14.3 mm	0.12"	3.0 mm	NV1-40-9E	NV2-40-9E	NV3-40-9E	NV5-40-9E

Air operated valves
Automation and monitoring.

High-pressure systems can be automated easily and effectively with NOVA SWISS® valves with pneumatic actuators. The valve bodies and the sealing system are identical to those of the hand-operated valves, and afford the same advantages.

The very rugged and dependable pneumatic piston actuator is available in two different versions:

- ATO (air to open), opening with compressed air, i.e. normally closed;
- ATC (air to close), closing with compressed air, i.e. normally open.

A mechanical position indicator gives indication as to whether the valve is in the actuated condition or not.

For electronic monitoring and control, the valves can be equipped with proximity switches or electrical contacts. Combined visual and electronic position indicating devices contribute substantially to high operating reliability.

When ordering air operated valves, we recommend the following procedure:

Specify the valve you need with the suffix ATO or ATC. For example: NVI-40-4E-ATO.

Please contact us for 1” and 3/4” valves.

Fittings

Cross and connect leak-free.

NOVA SWISS® fittings guarantee the leak-free connection of tubing and components. They assure you a simple and dependable connection system. Connections can be made and disconnected an arbitrary number of times. Chamfered edges facilitate handling and reduce the risk of injury.

All fittings are supplied with glands and collars.

English connections




Pressure	Connection	Tube-Ø	Orifice	Elbow	Tee	Cross	Bulk head
20 kpsi	MPCT	1/4" 6.4 mm	0.11" 2.8 mm	ELB-20-4M	TEE-20-4M	CRS-20-4M	BLK-20-4M
1,380 bar		3/8" 9.5 mm	0.20" 5.2 mm	ELB-20-6M	TEE-20-6M	CRS-20-6M	BLK-20-6M
		9/16" 14.3 mm	0.35" 9.0 mm	ELB-20-9M	TEE-20-9M	CRS-20-9M	BLK-20-9M
		3/4" 19.1 mm	0.52" 13.1 mm	ELB-20-12M	TEE-20-12M	CRS-20-12M	BLK-20-12M
		1" 25.4 mm	0.69" 17.5 mm	ELB-20-16M	TEE-20-16M	CRS-20-16M	BLK-20-16M
30 kpsi	HPCT	1/4" 6.4 mm	0.09" 2.4 mm	ELB-30-4H	TEE-30-4H	CRS-30-4H	BLK-30-4H
2,070 bar		3/8" 9.5 mm	0.13" 3.2 mm	ELB-30-6H	TEE-30-6H	CRS-30-6H	BLK-30-6H
		9/16" 14.3 mm	0.18" 4.5 mm	ELB-30-9H	TEE-30-9H	CRS-30-9H	BLK-30-9H
60 kpsi	HPCT	1/4" 6.4 mm	0.09" 2.4 mm	ELB-60-4H	TEE-60-4H	CRS-60-4H	BLK-60-4H
4,140 bar		3/8" 9.5 mm	0.13" 3.2 mm	ELB-60-6H	TEE-60-6H	CRS-60-6H	BLK-60-6H
		9/16" 14.3 mm	0.18" 4.5 mm	ELB-60-9H	TEE-60-9H	CRS-60-9H	BLK-60-9H

Metric connections




Pressure	Connection	Tube-Ø	Orifice	Elbow	Tee	Cross	Bulk head
4,000 bar	E	1/4" 6.4 mm	0.09" 2.4 mm	ELB-40-4E	TEE-40-4E	CRS-40-4E	BLK-40-4E
		3/8" 9.5 mm	0.13" 3.2 mm	ELB-40-6E	TEE-40-6E	CRS-40-6E	BLK-40-6E
		9/16" 14.3 mm	0.18" 4.5 mm	ELB-40-9E	TEE-40-9E	CRS-40-9E	BLK-40-9E
7,000 bar	E	1/4" 6.4 mm	0.06" 1.6 mm	ELB-70-4E	TEE-70-4E	CRS-70-4E	BLK-70-4E

Glands
Collars
Plugs
Leak-free connecting and sealing.

High- and medium-pressure connections ensure the tight connection of NOVA SWISS® high-pressure components under pressure. The connections have no sealing rings and can be released and fitted with ease an arbitrary number of times. The sealing effect is achieved by forcing two slightly offset tapers against one another.

For connections or NOVA SWISS® high-pressure components which are subjected to constant vibrations, we recommend the anti vibration assemblies. These assemblies will maximize the dependability and tightness of your high-pressure system.

English connections

Pressure	Connection	Tube-Ø		Gland	Collar	Plug	Anti vibration assemblies	
20 kpsi	MPCT	1/4"	6.4 mm	GLN-20-4M	COL-20-4	PLG-20-4	AVA-20-4M	
1,380 bar		3/8"	9.5 mm	GLN-20-6M	COL-20-6	PLG-20-6	AVA-20-6M	*
		9/16"	14.3 mm	GLN-20-9M	COL-20-9	PLG-20-9	AVA-20-9M	
		3/4"	19.1 mm	GLN-20-12M	COL-20-12	PLG-20-12	AVA-20-12M	
		1"	25.4 mm	GLN-20-16M	COL-20-16	PLG-20-16	AVA-20-16M	
30 - 60 kpsi	HPCT	1/4"	6.4 mm	GLN-60-4H	COL-60-4	PLG-60-4	AVA-60-4H	
2,070 - 4,140 bar		3/8"	9.5 mm	GLN-60-6H	COL-60-6	PLG-60-6	AVA-60-6H	
		9/16"	14.3 mm	GLN-60-9H	COL-60-9	PLG-60-9	AVA-60-9H	

Metric connections

Pressure	Connection	Tube-Ø		Gland	Collar	Plug	Anti vibration assemblies	
7,000 bar	E	1/4"	6.4 mm	GLN-70-4E	COL-70-4E	PLG-70-4E	AVA-70-4E	
4,000 bar		3/8"	9.5 mm	GLN-40-6E	COL-60-6	PLG-60-6	AVA-40-6E	*
4,000 bar		9/16"	14.3 mm	GLN-40-9E	COL-60-9	PLG-60-9	AVA-40-9E	

*MPCT anti vibration assemblies consist of collar, gland, collet and nut.
HPCT / E anti vibration assemblies consist of gland and collar.

Filters

Clean filtering, easy changing.

NOVA SWISS® high-pressure filters filter highly pressurized gases or liquids. Filter elements can be changed on site with ease and without the need to first disassemble the filter in front of the tubing. Filter cartridges are made of sintered material with pore sizes of 5 µm or 10 µm.

Metric connections

Pressure	Connection	Tube-Ø		Orifice		Filter	Filter insert	Pore size
4,000 bar	E	1/4"	6.4 mm	0.12"	3.0 mm	FIL-40-4E	5.2027.014	5 µm
58 kpsi		3/8"	9.5 mm	0.12"	3.0 mm	FIL-40-6E	5.2027.014	5 µm
4,000 bar	E	1/4"	6.4 mm	0.12"	3.0 mm	FIL-40-4E-10	5.2027.015	10 µm
58 kpsi		3/8"	9.5 mm	0.12"	3.0 mm	FIL-40-6E-10	5.2027.015	10 µm

Check valves

Allowing flow in one direction.

NOVA SWISS® check valves are suitable for blocking the passage of a medium in one direction, as well as for allowing the leak-free passage of the medium under pressure in the other. The combined metal-plastic seat assures optimum sealing for gases and liquids.

The check valves feature excellent flow rates, high leakage tightness and reliability at both low and high pressures. The replaceable seat affords easy and cost-effective maintenance.

High and medium pressure check valves are supplied complete with glands and collars.

English connections

Pressure	Connection	Tube-Ø		Orifice		Check valve
10 kpsi	BSPP	1/4"	6.4 mm	0.18"	4.5 mm	CVP-10-4B
690 bar		3/8"	9.5 mm	0.26"	6.5 mm	CVP-10-6B
		1/2"	12.7 mm	0.35"	9.0 mm	CVP-10-8B
10 kpsi	NPT	1/4"	6.4 mm	0.18"	4.5 mm	CVP-10-4N
690 bar		3/8"	9.5 mm	0.26"	6.5 mm	CVP-10-6N
		1/2"	12.7 mm	0.35"	9.0 mm	CVP-10-8N
20 kpsi	MPCT	1/4"	6.4 mm	0.11"	2.8 mm	CVP-20-4M
1,380 bar		3/8"	9.5 mm	0.20"	5.2 mm	CVP-20-6M
		9/16"	14.3 mm	0.35"	9.0 mm	CVP-20-9M
		3/4"	19.1 mm	0.52"	13.1 mm	CVP-20-12M
		1"	25.4 mm	0.69"	17.5 mm	CVP-20-16M
30 kpsi	HPCT	1/4"	6.4 mm	0.09"	2.4 mm	CVP-30-4H
2,070 bar		3/8"	9.5 mm	0.13"	3.2 mm	CVP-30-6H
		9/16"	14.3 mm	0.18"	4.5 mm	CVP-30-9H
60 kpsi	HPCT	1/4"	6.4 mm	0.09"	2.4 mm	CVP-60-4H
4,140 bar		3/8"	9.5 mm	0.13"	3.2 mm	CVP-60-6H
		9/16"	14.3 mm	0.18"	4.5 mm	CVP-60-9H

Metric connections

Pressure	Connection	Tube-Ø		Orifice		Check valve
4,000 bar	E	1/4"	6.4 mm	0.09"	2.4 mm	CVP-40-4E
		3/8"	9.5 mm	0.13"	3.2 mm	CVP-40-6E
		9/16"	14.3 mm	0.18"	4.5 mm	CVP-40-9E

Safety heads

Effective overpressure protection.

NOVA SWISS® safety heads provide the assurance of overpressure protection and safety. The safety heads can be fitted with different bursting discs for different rupture pressures. Changing the bursting discs is easy and cost-effective.

Safety heads are supplied complete with glands and collars.

English connections

Pressure	Connection	Tube-Ø		Orifice		Safety head
20 kpsi	MPCT	1/4"	6.4 mm	0.11"	2.8 mm	SHD-20-4M
1,380 bar		3/8"	9.5 mm	0.13"	3.2 mm	SHD-20-6M
		9/16"	14.3 mm	0.13"	3.2 mm	SHD-20-9M
30 kpsi	HPCT	1/4"	6.4 mm	0.09"	2.4 mm	SHD-30-4H
2,070 bar		3/8"	9.5 mm	0.13"	3.2 mm	SHD-30-6H
		9/16"	14.3 mm	0.13"	3.2 mm	SHD-30-9H
60 kpsi	HPCT	1/4"	6.4 mm	0.09"	2.4 mm	SHD-60-4H
4,140 bar		3/8"	9.5 mm	0.13"	3.2 mm	SHD-60-6H
		9/16"	14.3 mm	0.13"	3.2 mm	SHD-60-9H

Metric connections

Pressure	Connection	Tube-Ø		Orifice		Safety head
4,000 bar	E	1/4"	6.4 mm	0.09"	2.4 mm	SHD-40-4E
		3/8"	9.5 mm	0.13"	3.2 mm	SHD-40-6E
		9/16"	14.3 mm	0.13"	3.2 mm	SHD-40-9E

Bursting discs

Safety and protection through selective rupturing.

Bursting discs are manufactured of corrosion-resistant materials according to exacting standards. When designing your system, it is important to make sure that the rupture tolerance of the discs is correctly accounted for. To avoid premature rupturing of the disc, the static operating pressure of your system should be about 20% lower than the nominal rupture pressure of the bursting disc.

If desired, bursting discs are available in special materials and for special pressures.

Nominal bursting pressure*

bar	psi	Bursting discs
50	725	521.9590-2
80	1160	521.9590-36
100	1450	521.9590-3
150	2175	521.9590-4
200	2900	521.9590-5
250	3625	521.9590-6
300	4350	521.9590-7
350	5075	521.9590-8
400	5800	521.9590-9
450	6525	521.9590-48
500	7250	521.9590-10
700	10160	521.9590-12
800	11600	521.9590-13
1000	14500	521.9590-14
1050	15225	521.9590-15
1250	18125	521.9590-16
1500	21750	521.9590-17
1600	23200	521.9590-46
1750	25375	521.9980-026
2000	29000	521.9590-19
2250	32625	521.9590-20
2500	36250	521.9590-21
3000	43500	521.9590-23
3250	47125	521.9590-25
3500	50750	521.9590-26
4000	58000	521.9590-28
4250	61625	521.9590-29
4500	65250	521.9590-30
6000	87000	521.9590-47
7000	101500	521.9590-38

*Bursting tolerance ± 10%

Adapters, connectors, couplings

NOVA SWISS® offers a wide range of adapters, connectors and couplings which are available in different types of connection to enable most connections and interfaces.

For more information, please contact Sprague Products at 440-838-7690.

Tubing

Leak-free transfer of liquids and gases.

NOVA SWISS® high-pressure tubing is made of high-grade stainless steel. They are seamless, cold-drawn and work-hardened to achieve high strength and corrosion resistance. In the manufacturing process the chemical composition of the material, as well as mechanical values, are tested according to strict criteria.

Tubing marked with “A” is soft-annealed and complies with the NACE MR0175 standard (latest revision). For applications that must comply with this standard, the tubing may not be bent.

Pressure	Tube O/D		Tube I/D		Tubing
10 kpsi	9/16"	14.3 mm	0.36"	9.1 mm	TBG-10-9
690 bar	3/4"	19.1 mm	0.52"	13.1 mm	TBG-10-12
	1"	25.4 mm	0.69"	17.5 mm	TBG-10-16
20 kpsi	1/4"	6.4 mm	0.11"	2.8 mm	TBG-20-4A
1,380 bar	3/8"	9.5 mm	0.20"	5.2 mm	TBG-20-6
	9/16"	14.3 mm	0.31"	7.9 mm	TBG-20-9
	3/4"	19.1 mm	0.44"	11.1 mm	TBG-20-12
	1"	25.4 mm	0.56"	14.3 mm	TBG-20-16
20 kpsi	1/4"	6.4 mm	0.11"	2.8 mm	TBG-20-4A
1,380 bar	3/8"	9.5 mm	0.19"	4.7 mm	TBG-20-6A
	9/16"	14.3 mm	0.28"	7.0 mm	TBG-20-9A
	3/4"	19.1 mm	0.37"	9.5 mm	TBG-20-12A
	1"	25,4 mm	0.50"	12.6 mm	TBG-20-16A
30 kpsi	1/4"	6.4 mm	0.09"	2.4 mm	TBG-30-4A
2,070 bar	3/8"	9.5 mm	0.13	3.2 mm	TBG-30-6A
	9/16"	14.3 mm	0.19"	4.8 mm	TBG-30-9A
60 kpsi	1/4"	6.4 mm	0.09"	2.4 mm	TBG-60-4
4,140 bar	3/8"	9.5 mm	0.13"	3.2 mm	TBG-60-6
	9/16"	14.3 mm	0.19"	4.8 mm	TBG-60-9
7,000 bar 101,500 psi	1/4"	6.4 mm	0.063"	1.6 mm	TBG-100-4

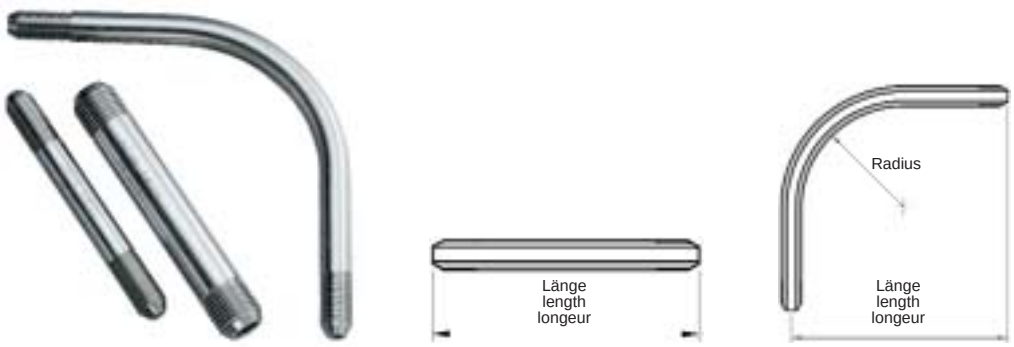
Nipples

Straight or bent, complete with tube end machining.

NOVA SWISS® nipples are manufactured from our standard tubing. The threads and tapers at the ends are machined according to exact specifications. The precision surface quality of the tapers provides the assurance of leak-free connection to NOVA SWISS® components in both gas and liquid applications.

Nipples marked with “A” are soft-annealed and comply with the NACE MR0175 standard (latest revision).

Pressure	Straight nipple	Length		Tube O/D		Radius nipple	Length		90° radius	
10 kpsi	SNP-10-9	3.46"	88 mm	9/16"	14.3 mm	RNP-10-9	4.88"	124 mm	2.62"	67 mm
690 bar	SNP-10-12	4.09"	104 mm	3/4"	19.1 mm	RNP-10-12	6.22"	158 mm	3.50"	89 mm
	SNP-10-16	5.43"	138 mm	1"	25.4 mm	RNP-10-16	8.27"	210 mm	4.62"	117 mm
20 kpsi	SNP-20-4	2.20"	56 mm	1/4"	6.4 mm	RNP-20-4	2.68"	68 mm	1.25"	32 mm
1,380 bar	SNP-20-6	2,83"	72 mm	3/8"	9.5 mm	RNP-20-6	3.54"	90 mm	1.75"	44 mm
	SNP-20-9	3.46"	88 mm	9/16"	14.3 mm	RNP-20-9	4.88"	124 mm	2.62"	67 mm
	SNP-20-12	4.09"	104 mm	3/4"	19.1 mm	RNP-20-12	6.22"	158 mm	3.50"	89 mm
	SNP-20-16	5.43"	138 mm	1"	25.4 mm	RNP-20-16	8.27"	210 mm	4.62"	117 mm
20 kpsi	SNP-20-4A	2.20"	56 mm	1/4"	6.4 mm	--	--		--	
1,380 bar	SNP-20-6A	2.83"	72 mm	3/8"	9.5 mm	--	--		--	
	SNP-20-9A	3.46"	88 mm	9/16"	14.3 mm	--	--		--	
	SNP-20-12A	4.09"	104 mm	3/4"	19.1 mm	--	--		--	
	SNP-20-16A	5.43"	138 mm	1"	25.4 mm	--	--		--	
30 kpsi	SNP-30-4A	2.52"	64 mm	1/4"	6.4 mm	--	--		--	
2,070 bar	SNP-30-6A	3.23"	82 mm	3/8"	9.5 mm	--	--		--	
	SNP-30-9A	4.09"	104 mm	9/16"	14.3 mm	--	--		--	
60 kpsi	SNP-60-4	2.52"	64 mm	1/4"	6.4 mm	RNP-60-4	2.83"	72 mm	1.25"	32 mm
4,140 bar	SNP-60-6	3.23"	82 mm	3/8"	9.5 mm	RNP-60-6	3.86"	98 mm	1.75"	44 mm
	SNP-60-9	4.09"	104 mm	9/16"	14.3 mm	RNP-60-9	5.28"	134 mm	2.62"	67 mm
101 kpsi	SNP-100-4	2.52"	64 mm	1/4"	6.4 mm	RNP-100-4	3.94"	100 mm	0.98"	25 mm
7,000 bar										



Diaphragm compressors

Compression of ultra-pure gases.

NOVA SWISS® diaphragm compressors are specially suited for compressing ultra-pure gases. The compression compartment is separated from the crank mechanism by diaphragms, thereby avoiding oil contamination of the gas.

Parts which come into contact with the medium are made of corrosion-resistant steel.

The compressor features high dependability, ease of use and low maintenance.

The compressor is secured against overpressure on the oil side.

Special models for hydrogen (H_2) or oxygen (O_2) are available. If desired, the compressor can also be equipped with a diaphragm leak detector.

Max. output pressure	Number of diaphragm heads	Geared motor	Prepressure min. / max.		Diaphragm-compressors	H_2 type	O_2 type	Leak detector
	1	380V/50 Hz, 2.2 kW, 330 r.p.m.	20	200	554.2121	-1	-3	-4
1,000 bar	2 parallel	380V/50 Hz, 4 kW, 330 r.p.m.	20	200	554.2122	-1	-3	-4
14,500 psi	1	380V/50 Hz, 2.2 kW, 330 r.p.m. with V-belt drive	20	200	554.2181	-1	-3	-4
3,000 bar	1	380V/50 Hz, 2.2 kW, 330 r.p.m.	20	200	554.2320	-1	-3	-4
43,500 psi	2 serie	380V/50 Hz, 4 kW, 340 r.p.m.	20	80	554.3122	-1	-3	-4

Hand pumps

Flexible and independent high-pressure generators.

The NOVA SWISS® hand pump with spindle drive is the ideal pressure generator for smaller high-pressure systems. It is suitable for applications with all usual high-pressure fluids, including those with low viscosity. This pump can be used anywhere independent of a compressed air or electrical power supply. With the fine-thread spindle, any desired pressure can be fine-adjusted. Operation is facilitated by three long actuating levers. The spindle is non-rotating, thereby substantially increasing the longevity of the seal.

Max. output pressure	Connection	Piston displacement	Per rotation	Hand pumps
7,000 bar 101,500 psi	1 x 1/4" E	2.5 ccm	0.08 ccm	550.0400-2
4,000 bar 58,000 psi	3 x 1/4" E	5 ccm	0.15 ccm	550.0301.1
2,000 bar 29,000 psi	3 x 1/4" E	10 ccm	0.3 ccm	550.0202.1

Hand pump system

Digital display unit

Digital information source.

The digital display unit shows sensor signals digitally. It also supplies the pressure transducer with the required energy. For process monitoring, models with limit value contacts or an analog output are available.

The desired measuring range can be adjusted program-controlled on site. Both the input signal and the analog output are selectable. The device is programmed with function keys at the front. Momentary value memories and peak value memory are optional for the analysis of variable measurement signals. For transferring the measurement data to a PC, units with an RS 232 serial interface are available.

Special features:

Scalable on the meter without external tools

Input selectable: 4...20mA, 0...20mA, 0...10VDC

Integrated transducer power supply

Momentary value memory

Peak value memory

Options:

Analog output 4...20mA

Limit value contacts, contact function and hysteresis programmable

RS 232 serial interface

Model	Digital display unit
Standard	5.0406.025
Analog output 4-20mA	5.0406.026
RS 232 serial interface	5.0406.027
Limit value contact	5.0406.028
Cable from pressure transducer to the digital display unit (3 m)	5.3888.019

High-pressure gauges
The exact pressure at a glance.

Our gauges cover an assortment of pressure ranges extending up to 101,500 psi (7,000 bar). The gauges are manufactured in the accuracy class of 1.0 according to EN 837-1.

The safety features of the ultra high pressure gauges include a massive partition wall between the measuring system and the dial face, as well as a blow-out back. All pressure bearing parts are made of high grade, corrosion-resistant materials.

The manometers feature high corrosion resistance and a rugged design. If desired for purposes of damping, they can be filled with liquid.

Pressure range	Connection	Gauge
0 - 600 bar / 0 - 8,700 psi	G 1/2" A	5.4914.062
0 - 1,000 bar / 0 - 14,500 psi	G 1/2" A	5.4914.063
0 - 1,600 bar / 0 - 23,200 psi	G 1/2" A	5.4914.064
0 - 2,500 bar / 0 - 36,000 psi	1/4" E (M16x1.5)	5.4914.065
0 - 4,000 bar / 0 - 58,000 psi	1/4" E (M16x1.5)	5.4914.066
0 - 7,000 bar / 0 -101,500 psi	1/4" E (M16x1.5	5.4914.067

Pressure transducers

Precision measurement in every pressure range.

Pressure transducers are available in a variety of pressure ranges. Thanks to their accuracy, dependability, corrosion resistance and mechanical strength, they are suitable for a wide range of measuring applications. They are used in production operations, in development work or in laboratories. The bodies and parts exposed to the measured medium are manufactured in stainless steel and are resistant to aggressive media.

Pressure range	Connection	Pressure transducer
0 - 600 bar / 0 - 8,700 psi	G 1/2" A	5.1539.015
0 - 1,000 bar / 0 - 14,500 psi	G 1/2" A	5.1539.016
0 - 1,600 bar / 0 - 23,200 psi	G 1/2" A	5.1539.017
0 - 2,500 bar / 0 - 36,000 psi	1/4" E (M16x1.5)	5.1539.018
0 - 4,000 bar / 0 - 58,000 psi	1/4" E (M16x1.5)	5.1539.019

(Pressure transducer for other pressure ranges available on request.)

Special features:

Standard output: 4 - 20mA; 2-conductor technology

High mechanical strength

High pressure peak resistance

High load cycling resistance

High long-time stability

Corrosion-resistant stainless-steel construction

Mechanical safety concept for dynamic and static measurements

EMC protection according to EN 50 081-1 and 50 082-2.

Our product spectrum is supplemented by the following products which are available on request:

Tube-end machining tools

7 kbar valves

Thermocouples