

VOSS

VOSSPlug



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Worldwide dealers

Please request the current list of the dealer directory from our Sales Department in Wipperfürth.

Compliance with the respective operating and assembly instructions as well as the current standards and regulations of general mechanical engineering is a basic requirement for the reliable performance of VOSS products. Please always use the latest version.

Subject to technical modifications; misprints and errors excepted. This catalog edition replaces all previously published technical documents, catalogs, assembly instructions etc.

Consequently, all previous documents lose their validity with immediate effect!

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passionately
connected.

The Company

VOSS is a proven partner in the automotive and mechanical engineering industries for tube and coupling technology in fluid systems.

Since its foundation in 1931, the company has developed into a globally active group of companies driven by customer proximity, innovations and top quality. VOSS Automotive GmbH, VOSS Fluid GmbH and 16 foreign companies are united under the umbrella of VOSS Holding.

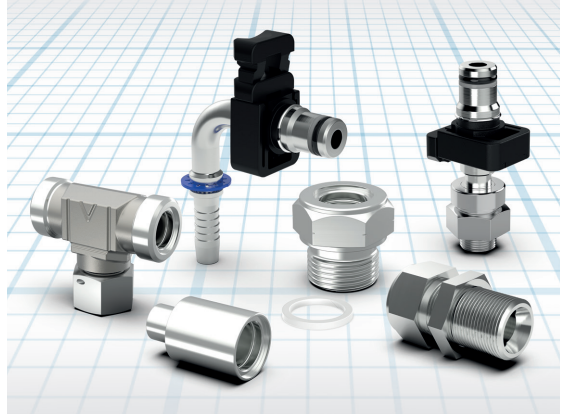
With its production facilities in Germany and abroad as well as sales companies in Europe and overseas, VOSS is one of the world's leading suppliers of components for fluid systems: In the area of VOSS Automotive for vehicle construction and in the area of VOSS Fluid for mechanical engineering.

The product range includes coupling elements, ready-to-install lines, valves and other components for pneumatic, hydraulic, fuel and air conditioning systems.

**The headquarter:
Plant and administration Wipperfürth**



With the complete integration of quick connectors, the product portfolio is systematically expanded for a wide range of applications.



As a development partner and system provider with a full range of products, VOSS takes on the responsibility of actively supporting the opinion-forming process in the fluid technology industry in a wide variety of ways.

Machine components for coupling technology

A complete range plus quality: VOSS produces one of the most comprehensive product ranges of tube connection systems and quick connectors on the basis of this principle. The entire product range is available as a catalog program.

The product range includes hose fittings, cutting ring, soft seal and flared couplings, tube forming systems, flange couplings and supplementary accessories. Particular emphasis is placed on the development of customer-specific system solutions. VOSS Fluid handles the entire package, from project planning, engineering, production and assembly to special logistics services.

In addition, VOSS Fluid offers convincing economic additional services and optimization concepts that fully take into account procurement costs, assembly costs, the sustainability of the tightness of the screw connection and long-term corrosion protection.

The company's consistent quality policy and the defined quality objectives - all of which are reflected in the necessary certifications and approvals of the relevant associations and specialist bodies - have ensured VOSS a leading position in all established markets for many years.

Through worldwide depots with a wide range of systems and a global network of authorized dealers, VOSS Fluid stands for the very highest availability of products and offers particularly economical delivery systems. These range from a KANBAN Full Service to the complete optimization of the customer's supply chain.

With regular training courses and application-related information, VOSS Fluid offers a wide range of special services.



The internal and inter-company logistics of the entire VOSS Group provide considerable cost advantages, which make it possible for customers to plan their production precisely in time and in line with capacity without having to build up their own inventories.

VOSS corporate environmental policy

- 01** As a group of companies we make a continuous contribution to effective environmental protection. We strive for a sustainable balance between ecology, economy and social responsibility, thus ensuring the long-term success and continued existence of the company.
- 02** With our integrated management system, we implement the standards and clearly assign responsibility to the corporate levels. Within this framework, compliance with applicable legal requirements is consistently checked and the environmental awareness of our employees is continuously promoted.
- 03** All environmental effects of our activities are monitored and evaluated with the aim of constantly reducing the effects. We develop new processes and update existing ones in order to continuously improve our energy and environmental performance with the participation of the entire workforce.
- 04** The management undertakes to actively support the energy and environmental management system by providing the necessary resources, setting strategic and operational objectives and an appropriate information policy.
- 05** When manufacturing our products, we attach great importance to the efficient use of input resources and encourage our business partners to apply the same standards as we do ourselves.



Overview of VOSSPlug connectors

The intelligent alternative to conventional hose fittings



Content





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The complete range of the
VOSSPlug connectors

P.10

The complete range of the VOSS*Plug* connectors


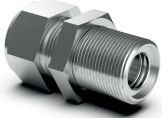
Hose fittings

<p>Straight hose fittings</p>  <p>P. 17 HF/VP-PMS...</p>	<p>45° hose fittings</p>  <p>P. 18 HF/VP-PME45...</p>	<p>90° hose fittings</p>  <p>P. 19 HF/VP-PME...</p>	<p>Straight hose sleeves</p>  <p>P. 20 HF/VP-S...</p>
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Male stud connectors

<p>metric, parallel, PEFLEX, flat</p>  <p>P. 22 VP-SDS...M...E</p>	<p>metric, parallel, PEFLEX, high</p>  <p>P. 23 VP-SDS...M...E</p>	<p>imperial, parallel, PEFLEX, flat</p>  <p>P. 24 VP-SDS...G...E</p>	<p>imperial, parallel, PEFLEX, high</p>  <p>P. 25 VP-SDS...G...E</p>	<p>metric, parallel, ISO 6149, flat</p>  <p>P. 26 VP-SDS...M...F</p>
<p>metric, parallel, ISO 6149, high</p>  <p>P. 27 VP-SDS...M...F</p>	<p>imperial, parallel, UN/UNF, flat</p>  <p>P. 28 VP-SDS...U...F</p>	<p>imperial, parallel, UN/UNF, high</p>  <p>P. 29 VP-SDS...U...F</p>		

Unions

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24° taper couplings (DKO)

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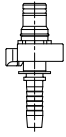
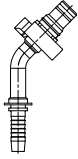
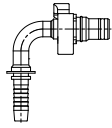
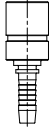












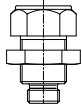
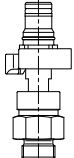
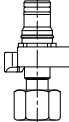


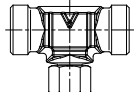
Product range *VOSSPlug* and accessories

The new hydraulic hose connection system



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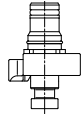
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OR

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Skive swaged ferrules

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No Skive swaged ferrules

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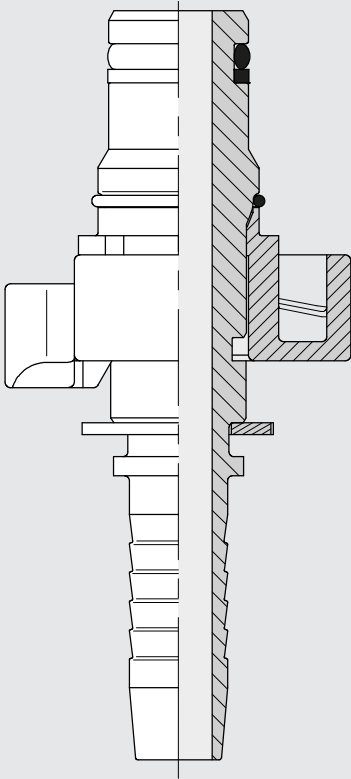


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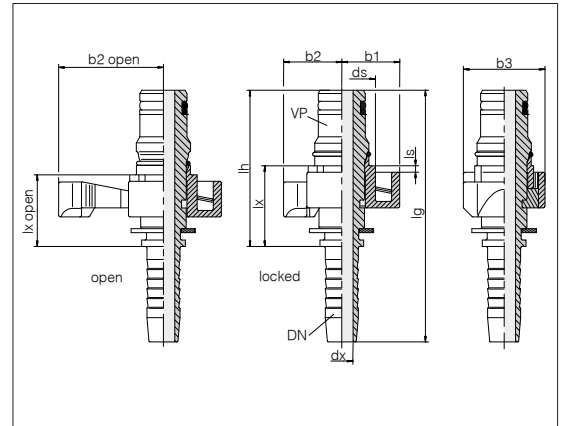
Hose fittings



Straight hose fittings

VOSSPlug connector: VOSS standard
Sealing material: HNBR

Hose connection: VOSS standard

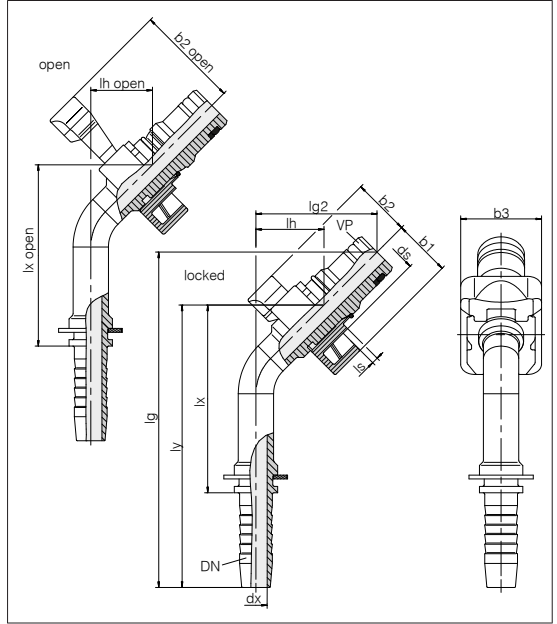


VP	DN	Pressure	ds	dx	lg	ls	lh	lx	lx open	b1	b2	b2 open	b3	kg/100 ca.	Order-No.	Designation
06	6	PN 400	17.5	4	71.7	1.8	43.7	22.2	19.8	15.3	15.7	28.1	21.6	4.0	7006524200	HF/VP-PMS-6-DN06
10	8	PN 370	20.8	5.5	76.3	2	48.3	25	22.2	17.9	18	32.4	25.2	6.4	7006526100	HF/VP-PMS-10-DN08
10	10	PN 370	20.8	7	77.8	2	48.3	25	22.2	17.9	18	32.4	25.2	6.3	7006527100	HF/VP-PMS-10-DN10
12	12	PN 370	25.8	9.5	85.6	2.2	56.1	29.4	26.1	21.6	21.2	38.2	30.6	10.9	7006529000	HF/VP-PMS-12-DN12
16	16	PN 350	29.9	12.5	91.4	2.4	57.4	30.3	27	22.7	24	41	35.4	15.1	7006530900	HF/VP-PMS-16-DN16

45° hose fittings

VOSSPlug connector: VOSS standard
Sealing material: HNBR

Hose connection: VOSS standard

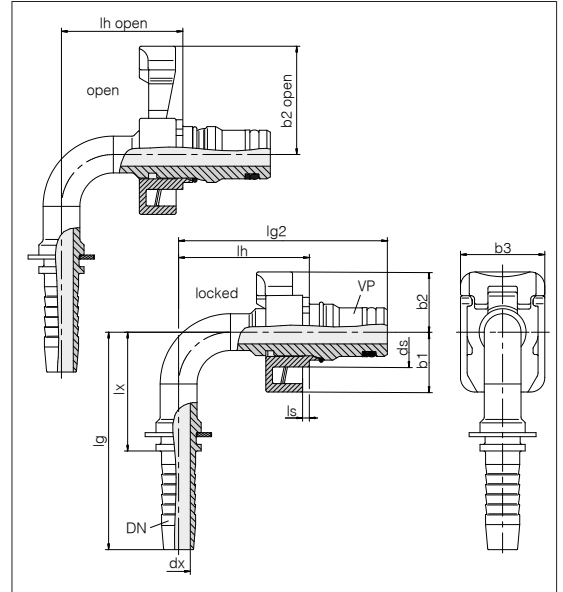


VP	DN	Pressure	ds	dx	lg	lg2	ls	lh	lh open	lx	lx open	ly	b1	b2	b2 open	b3	kg/100 ca.	Order-No.	Designation
06	6	PN 400	17.5	4	90.4	32.8	1.8	17.6	15.9	47.2	45.5	75.2	15.3	15.7	28.1	21.6	4.9	7008290700	HF/VP-PME45-6-DN06
10	8	PN 370	20.8	5.5	96.6	36.4	2	19.9	17.9	52.1	50.1	80.1	17.9	18	32.4	25.2	7.4	7008291000	HF/VP-PME45-10-DN08
10	10	PN 370	20.8	7	104.5	37.7	2	21.2	19.2	58.5	56.5	88	17.9	18	32.4	25.2	8.1	7008291300	HF/VP-PME45-10-DN10
12	12	PN 370	25.8	9.5	117	43.1	2.2	24.2	21.9	68.6	66.3	98.1	21.6	21.2	38.2	30.6	13.9	7008292000	HF/VP-PME45-12-DN12
16	16	PN 350	29.9	12.5	137.4	46.3	2.4	27.1	24.8	84.2	81.9	118.2	22.7	24	41	35.4	21.5	7008292300	HF/VP-PME45-16-DN16

90° hose fittings

VOSSPlug connector: VOSS standard
Sealing material: HNBR

Hose connection: VOSS standard

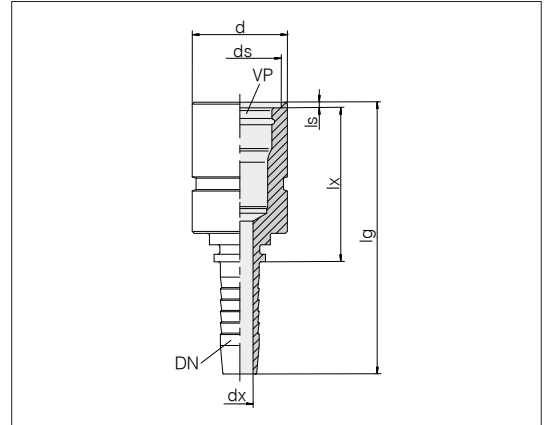


VP	DN	Pressure	ds	dx	lg	lg2	ls	lh	lh open	ix	b1	b2	b2 open	b3	kg/100 ca.	Order-No.	Designation
06	6	PN 400	17.5	4	55.3	54.6	1.8	33.1	30.7	27.3	15.3	15.7	28.1	21.6	4.9	7006524600	HF/VP-PME-6-DN06
10	8	PN 370	20.8	5.5	57.7	59.9	2	36.6	33.8	29.7	17.9	18	32.4	25.2	7.4	7006526500	HF/VP-PME-10-DN08
10	10	PN 370	20.8	7	65.1	62.4	2	39.1	36.3	35.6	17.9	18	32.4	25.2	8.1	7006527500	HF/VP-PME-10-DN10
12	12	PN 370	25.8	9.5	71.4	73.2	2.2	46.5	43.2	41.9	21.6	21.2	38.2	30.6	13.9	7006529400	HF/VP-PME-12-DN12
16	16	PN 350	29.9	12.5	87.3	81.3	2.4	54.2	50.9	53.3	22.7	24	41	35.4	21.5	7006531300	HF/VP-PME-16-DN16

Straight hose sleeves

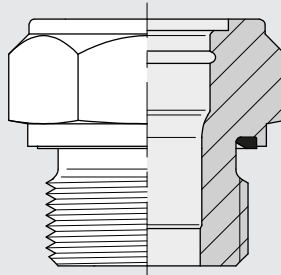
VOSS*Plug* sleeve: VOSS standard

Hose connection: VOSS standard



VP	DN	Pressure	d	ds	dx	lg	ls	lx	kg/100 ca.	Order-No.	Designation
06	6	PN 400	21	18.5	4	67	1.3	37.7	6.5	7008961700	HF/VP-S-6-DN06
10	8	PN 370	25	21.8	5.5	70	1.5	40.5	9.5	7008961900	HF/VP-S-10-DN08
10	10	PN 370	25	21.8	7	71.5	1.5	40.5	9.7	7008962100	HF/VP-S-10-DN10
12	12	PN 370	30	26.8	9.5	77.5	1.7	46.3	15.3	7008962300	HF/VP-S-12-DN12
16	16	PN 350	35	30.9	12.5	83	1.9	47.1	21.4	7008962500	HF/VP-S-16-DN16

Male stud connectors

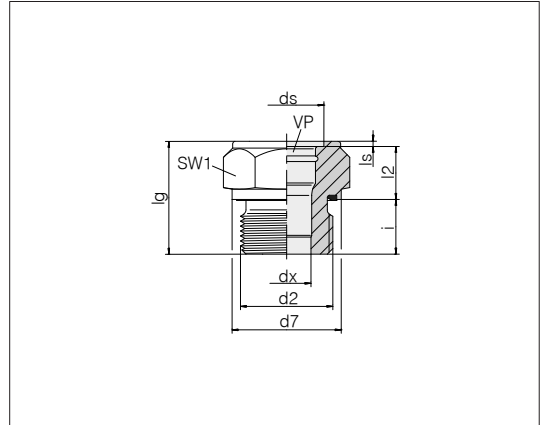


Male stud connectors

Male thread: Metric fine thread, cylindrical
 Threaded stud: ISO 9974 Form E
 Sealing type: Profile sealing ring PEFLEX
 Sealing material: Standard NBR

Design: Flat

VOSSPlug sleeve: VOSS standard



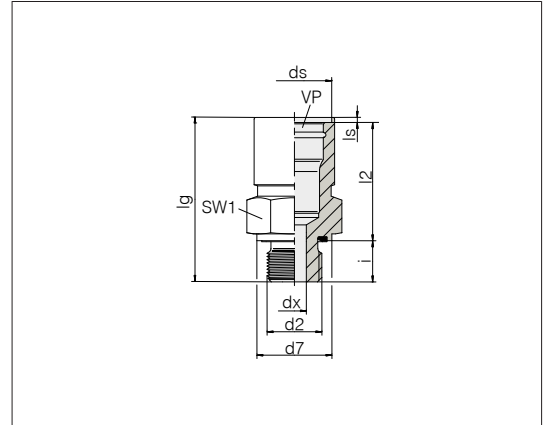
VP	d2	Pressure	d7	ds	dx	l2	lg	ls	i	SW1	kg/100 ca.	Nm -10 %	Order-No.	Designation
06	M 22 x 1.5	PN 400	26.9	18.5	11	13.7	29	1.3	14	27	8.0	130	7008959100	VP-SDS-6-M22E
10	M 27 x 2	PN 370	31.9	21.8	14.2	15.5	33	1.5	16	32	12.7	200	7008960000	VP-SDS-10-M27E
12	M 33 x 2	PN 370	39.9	26.8	17.3	18.3	38	1.7	18	41	23.9	250	7008960600	VP-SDS-12-M33E
16	M 33 x 2	PN 350	39.9	30.9	20.5	18.1	38	1.9	18	41	20.4	250	7008961200	VP-SDS-16-M33E

Male stud connectors

Male thread: Metric fine thread, cylindrical
 Threaded stud: ISO 9974 Form E
 Sealing type: Profile sealing ring PEFLEX
 Sealing material: Standard NBR

Design: High

VOSSPlug sleeve: VOSS Standard



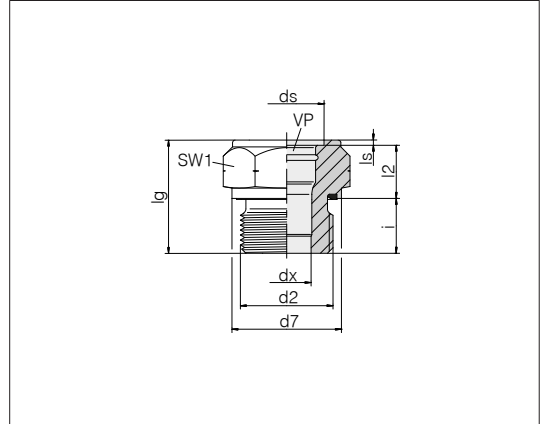
VP	d2	Pressure	d7	ds	dx	l2	lg	ls	i	SW1	kg/100 ca.	Nm -10 %	Order-No.	Designation
06	M 12 x 1.5	PN 400	16.9	18.5	4	31.7	45	1.3	12	22	7.4	50	7008959400	VP-SDS-6-M12E
10	M 14 x 1.5	PN 370	18.9	21.8	5	34.5	48	1.5	12	24	8.7	60	7008959700	VP-SDS-10-M14E
10	M 16 x 1.5	PN 370	21.9	21.8	7	34.5	48	1.5	12	24	9.0	80	7008960300	VP-SDS-10-M16E
12	M 18 x 1.5	PN 370	23.9	26.8	8	39.3	53	1.7	12	30	15.5	90	7008960900	VP-SDS-12-M18E
16	M 22 x 1.5	PN 350	26.9	30.9	12	39.1	55	1.9	14	36	22.4	130	7008961500	VP-SDS-16-M22E

Male stud connectors

Male thread: BSPP thread, cylindrical
 Threaded stud: ISO 1179-2 Form E
 Sealing type: Profile sealing ring PEFLEX
 Sealing material: Standard NBR

Design: Flat

VOSSPlug sleeve: VOSS standard



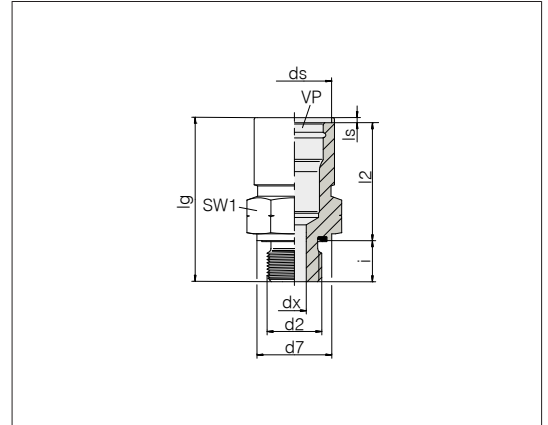
VP	d2	Pressure	d7	ds	dx	l2	lg	ls	i	SW1	kg/100 ca.	Nm -10 %	Order-No.	Designation
06	G 1/2 A	PN 400	26.9	18.5	11	13.7	29	1.3	14	27	7.5	150	7006524900	VP-SDS-6-G1/2E
10	G 3/4 A	PN 370	31.9	21.8	14.2	15.5	33	1.5	16	32	12.5	200	7006527800	VP-SDS-10-G3/4E
12	G 1 A	PN 370	39.9	26.8	17.3	18.3	38	1.7	18	41	23.9	250	7006529700	VP-SDS-12-G1E
16	G 1 A	PN 350	39.9	30.9	20.5	18.1	38	1.9	18	41	20.4	250	7006531600	VP-SDS-16-G1E

Male stud connectors

Male thread: BSPP thread, cylindrical
 Threaded stud: ISO 1179-2 Form E
 Sealing type: Profile sealing ring PEFLEX
 Sealing material: Standard NBR

Design: High

VOSSPlug sleeve: VOSS Standard



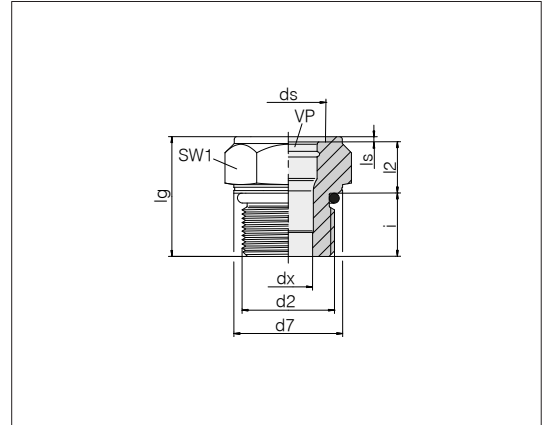
VP	d2	Pressure	d7	ds	dx	l2	lg	ls	i	SW1	kg/100 ca.	Nm -10 %	Order-No.	Designation
06	G 1/4 A	PN 400	18.9	18.5	5	31.7	45	1.3	12	22	8.5	50	7006525200	VP-SDS-6-G1/4E
10	G 1/4 A	PN 370	18.9	21.8	5	34.5	48	1.5	12	24	9.6	50	7006526800	VP-SDS-10-G1/4E
10	G 3/8 A	PN 370	21.9	21.8	8	34.5	48	1.5	12	24	9.7	80	7006528100	VP-SDS-10-G3/8E
12	G 1/2 A	PN 370	26.9	26.8	12	37.3	53	1.7	14	30	16.4	100	7006530000	VP-SDS-12-G1/2E
16	G 1/2 A	PN 350	26.9	30.9	12	39.1	55	1.9	14	36	23.9	100	7006531900	VP-SDS-16-G1/2E

Male stud connectors

Male thread: Metric fine thread, cylindrical
 Threaded stud: ISO 6149-2/3
 Sealing type: O-Ring (Form F)
 Sealing material: Standard NBR

Design: Flat

VOSSPlug sleeve: VOSS standard



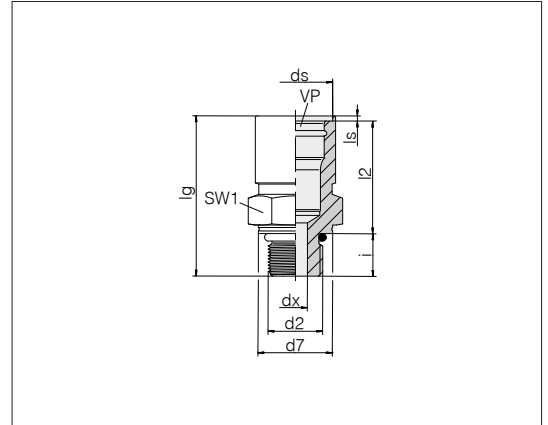
VP	d2	Pressure	d7	ds	dx	l2	lg	ls	i	SW1	kg/100 ca.	Nm -10 %	Order-No.	Designation
06	M 22 x 1,5	PN 400	26.8	18.5	11	12.7	29	1.3	15	27	7.9	100	7008956400	VP-SDS-6-M22F
10	M 27 x 2	PN 370	31.9	21.8	14.2	15	35	1.5	18.5	32	13.5	170	7008957300	VP-SDS-10-M27F
12	M 33 x 2	PN 370	40.8	26.8	17.3	17.8	38	1.7	18.5	41	24.3	310	7008957900	VP-SDS-12-M33F
16	M 33 x 2	PN 350	40.8	30.9	20.5	17.6	38	1.9	18.5	41	20.7	310	7008958500	VP-SDS-16-M33F

Male stud connectors

Male thread: Metric fine thread, cylindrical
 Threaded stud: ISO 6149-2/3
 Sealing type: O-Ring (Form F)
 Sealing material: Standard NBR

Design: High

VOSSPlug sleeve: VOSS Standard



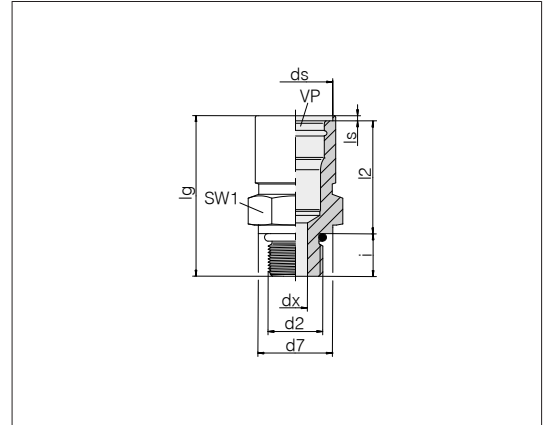
VP	d2	Pressure	d7	ds	dx	l2	lg	ls	i	SW1	kg/100 ca.	Nm -10 %	Order-No.	Designation
06	M 12 x 1.5	PN 400	16.8	18.5	4	30.7	43	1.3	11	22	7.0	35	7008956700	VP-SDS-6-M12F
10	M 14 x 1.5	PN 370	18.8	21.8	5	33.5	46	1.5	11	24	8.2	40	7008957000	VP-SDS-10-M14F
10	M 16 x 1.5	PN 370	21.8	21.8	7	33	47	1.5	12.5	24	8.6	55	7008957600	VP-SDS-10-M16F
12	M 18 x 1.5	PN 370	23.8	26.8	8	38.3	54	1.7	14	30	15.4	70	7008958200	VP-SDS-12-M18F
16	M 22 x 1.5	PN 350	26.8	30.9	12	38.1	55	1.9	15	36	22.2	100	7008958800	VP-SDS-16-M22F

Male stud connectors

Male thread: UN/UNF, cylindrical
 Threaded stud: ISO 11926-2/3
 Sealing type: O-Ring (Form F)
 Sealing material: Standard NBR

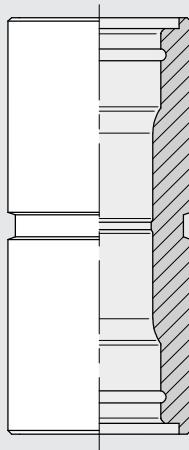
Design: High

VOSSPlug sleeve: VOSS Standard



VP	d2	Pressure	d7	ds	dx	l2	lg	ls	i	SW1	kg/100 ca.	Nm -10 %	Order-No.	Designation
06	7/16-20 UNF-2A	PN 400	14.9	18.5	4.5	30.7	43	1.3	11	22	6.9	30	7008954000	VP-SDS-6-U7/16-20F
10	1/2-20 UNF-2A	PN 370	16.5	21.8	6	33.5	46	1.5	11	24	8.0	45	7008954300	VP-SDS-10-U1/2-20F
10	9/16-18 UNF-2A	PN 370	18.3	21.8	7.5	32.5	46	1.5	12	24	7.9	75	7008954900	VP-SDS-10-U9/16-18F
12	3/4-16 UNF-2A	PN 370	23.5	26.8	10	37.3	53	1.7	14	30	14.7	100	7008955500	VP-SDS-12-U3/4-16F
16	7/8-14 UNF-2A	PN 350	27	30.9	12.5	38.1	56	1.9	16	36	22.2	160	7008956100	VP-SDS-16-U7/8-14F

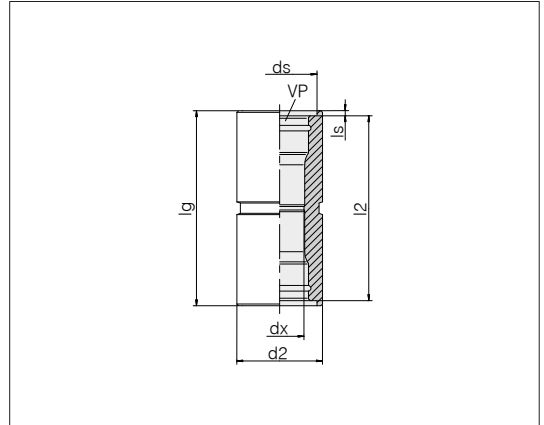
Unions



Unions

VOSSPlug sleeve: VOSS standard

Both sides

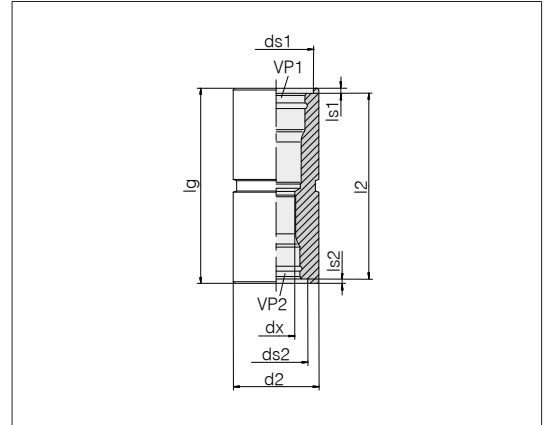


VP	Pressure	d2	ds	dx	l2	lg	ls	kg/100 ca.	Order-No.	Designation
06	PN 400	21	18.5	11	50.4	53	1.3	8.7	7009114600	VP-S-6
10	PN 370	25	21.8	14.2	54	57	1.5	12.6	7009114800	VP-S-10
12	PN 370	30	26.8	17.3	61.6	65	1.7	19.7	7009115200	VP-S-12
16	PN 350	35	30.9	20.5	62.2	66	1.9	26.9	7009115400	VP-S-16

Straight reducers

VOSSPlug sleeve: VOSS standard

Both sides

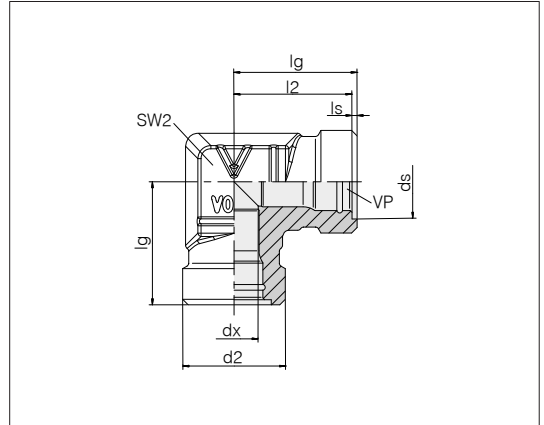


VP1	VP2	Pressure	d2	ds1	ds2	dx	l2	lg	ls1	ls2	kg/100 ca.	Order-No.	Designation
10	06	PN 370	25	21.8	18.5	11	54.2	57	1.5	1.3	14.2	7009115600	VP-S-10-6
12	10	PN 370	30	26.8	21.8	14.2	60.8	64	1.7	1.5	22.2	7009115800	VP-S-12-10
16	12	PN 350	35	30.9	26.8	17.3	64.4	68	1.9	1.7	31.1	7009116000	VP-S-16-12

Union elbows

VOSSPlug sleeve: VOSS standard

Both sides

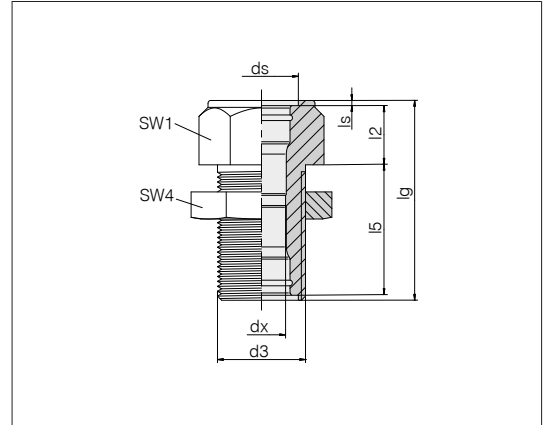


VP	Pressure	d2	ds	dx	l2	lg	ls	SW2	kg/100 ca.	Order-No.	Designation
06	PN 400	24	18.5	11	30.7	32	1.3	24	17.0	7009116200	VP-E-6
10	PN 370	30	21.8	14.2	34.5	36	1.5	27	25.5	7009116400	VP-E-10
12	PN 370	36	26.8	17.3	39.3	41	1.7	36	47.6	7009116600	VP-E-12
16	PN 350	42	30.9	20.5	42.1	44	1.9	41	69.4	7009116800	VP-E-16

Bulkhead unions

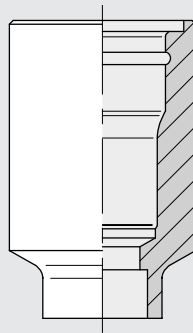
VOSSPlug sleeve: VOSS standard

Both sides



VP	d3	Pressure	ds	dx	l2	l5	lg	ls	SW1	SW4	kg/100 ca.	Order-No.	Designation
06	M 22 x 1.5	PN 400	18.5	11	15.7	36.7	55	1.3	27	30	16.1	7009117100	VP-BHSLN-6
10	M 26 x 1.5	PN 370	21.8	14.2	17.5	38.5	59	1.5	32	36	24.0	7009117500	VP-BHSLN-10
12	M 36 x 2	PN 370	26.8	17.3	22.3	41.3	67	1.7	41	46	50.7	7009117800	VP-BHSLN-12
16	M 36 x 2	PN 350	30.9	20.5	23.1	41.1	68	1.9	41	46	45.2	7009118100	VP-BHSLN-16

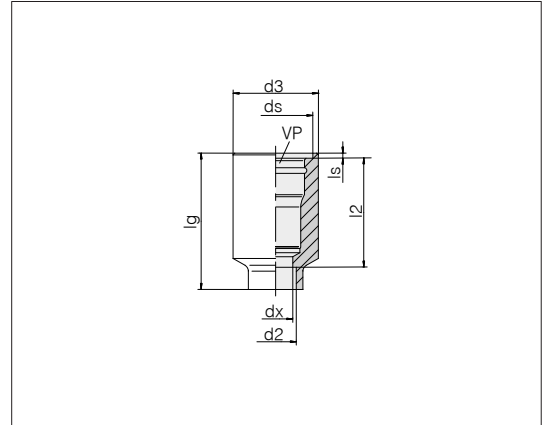
Braze-on adapters



Straight braze-on adapters

VOSSPlug sleeve: VOSS standard

Tube soldering contour: VOSS standard

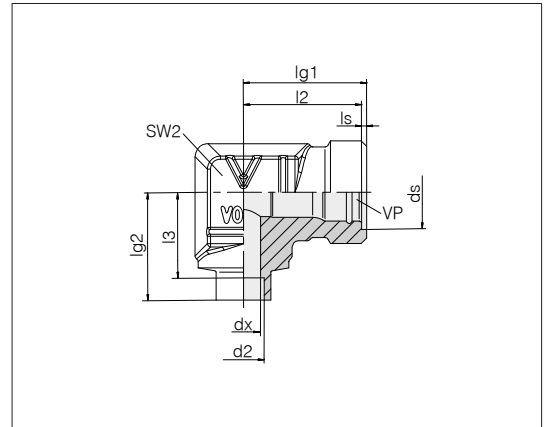


VP	Tube OD d2	Pressure	d3	ds	dx	l2	lg	ls	kg/100 ca.	Order-No.	Designation
06	8	PN 400	21	18.5	6	30.2	37	1.3	5.7	7008485700	VP-BROS-6-8-C00
06	10	PN 400	21	18.5	8	29.7	37	1.3	5.7	7008485900	VP-BROS-6-10-C00
10	10	PN 370	25	21.8	8	32.5	40	1.5	8.1	7008486100	VP-BROS-10-10-C00
10	12	PN 370	25	21.8	10	32	40	1.5	8.1	7008486300	VP-BROS-10-12-C00
12	15	PN 370	30	26.8	12	36.3	45	1.7	12.7	7008486500	VP-BROS-12-15-C00
12	16	PN 370	30	26.8	13	36.3	45	1.7	12.8	7008486700	VP-BROS-12-16-C00
16	18	PN 350	35	30.9	15	37.6	47	1.9	17.9	7008486900	VP-BROS-16-18-C00
16	20	PN 350	35	30.9	17	37.1	47	1.9	17.9	7008487100	VP-BROS-16-20-C00

Elbow braze-on adapters

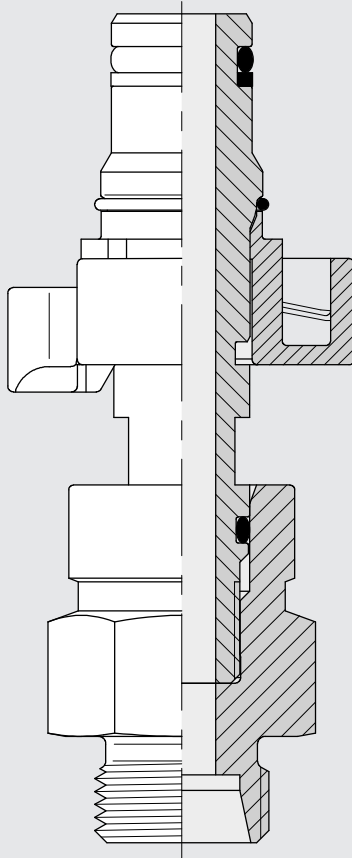
VOSSPlug sleeve: VOSS standard

Tube soldering contour: VOSS standard



VP	Tube OD d ₂	Pressure	ds	dx	l ₂	l ₃	l _{g1}	l _{g2}	l _s	SW2	kg/100 ca.	Order-No.	Designation
06	8	PN 400	18.5	6	30.7	22.5	32	28	1.3	24	16.1	7009118200	VP-BROE-6-8-C00
06	10	PN 400	18.5	8	30.7	22.5	32	28.5	1.3	24	15.9	7009118300	VP-BROE-6-10-C00
10	10	PN 370	21.8	8	34.5	25	36	31	1.5	27	23.5	7009118400	VP-BROE-10-C00
10	12	PN 370	21.8	10	34.5	25	36	31.5	1.5	27	23.2	7009118500	VP-BROE-10-12-C00
12	15	PN 370	26.8	12	39.3	28.5	41	35.5	1.7	36	44.1	7009118600	VP-BROE-12-15-C00
12	16	PN 370	26.8	13	39.3	29	41	36	1.7	36	44.1	7009118700	VP-BROE-12-16-C00
16	18	PN 350	30.9	15	42.1	34.5	44	42	1.9	41	67.1	7009118800	VP-BROE-16-18-C00
16	20	PN 350	30.9	17	42.1	34.5	44	42.5	1.9	41	66.3	7009118900	VP-BROE-16-20-C00

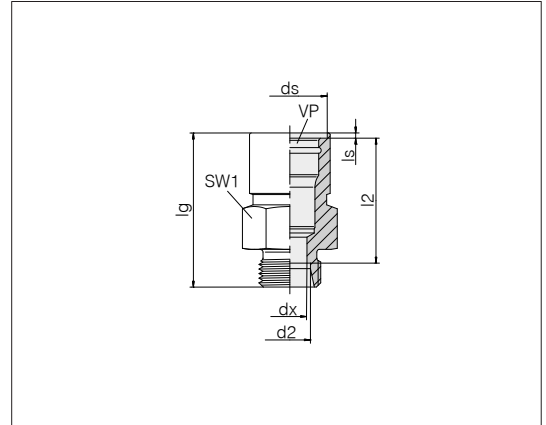
24° fittings



Straight unions 24°

VOSSPlug sleeve: VOSS standard

Tube coupling: 24° in acc. with ISO 8434-1

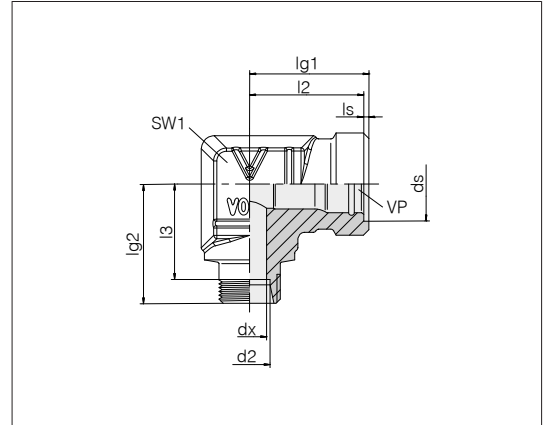


VP	Series Tube OD d2	Pressure	ds	dx	l2	lg	ls	SW1	kg/100 ca.	Order-No.	Designation
06	L 8	PN 400	18.5	6	32.7	41	1.3	22	7.1	7008479500	VP/24-S-6-L8
06	S 10	PN 400	18.5	7	35.2	44	1.3	22	8.2	7008479700	VP/24-S-6-S10
10	L 10	PN 370	21.8	8	36.5	45	1.5	24	8.2	7008479900	VP/24-S-10-L10
10	L 12	PN 370	21.8	10	36.5	45	1.5	24	8.3	7008480100	VP/24-S-10-L12
10	S 12	PN 370	21.8	8	38	47	1.5	24	9.4	7008480300	VP/24-S-10-S12
12	L 15	PN 370	26.8	12	41.3	50	1.7	30	14.6	7008480500	VP/24-S-12-L15
12	S 16	PN 370	26.8	12	42.8	53	1.7	30	16.0	7008480700	VP/24-S-12-S16
16	L 18	PN 350	30.9	15	42.6	52	1.9	36	22.8	7008480900	VP/24-S-16-L18
16	S 20	PN 350	30.9	16	43.6	56	1.9	36	24.9	7008481100	VP/24-S-16-S20

Union elbows 24°

VOSSPlug sleeve: VOSS standard

Tube coupling: 24° in acc. with ISO 8434-1

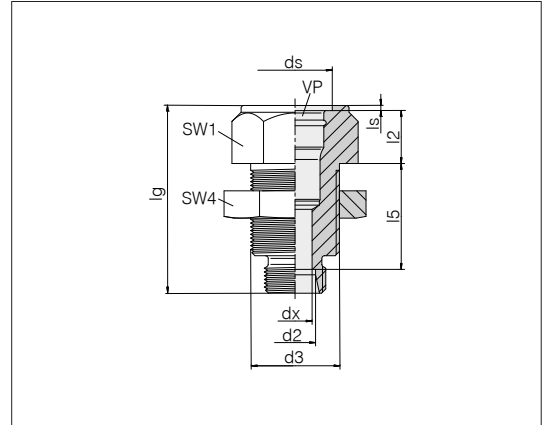


VP	Series Tube OD d2	Pressure	ds	dx	l2	l3	lg1	lg2	ls	SW1	kg/100 ca.	Order-No.	Designation
06	L 8	PN 400	18.5	6	29.7	24	31	31	1.3	24	16.1	7008481300	VP/24-E-6-L8
06	S 10	PN 400	18.5	7	29.7	25.5	31	33	1.3	24	16.9	7008482300	VP/24-E-6-S10
10	L 10	PN 370	21.8	8	33.5	28	35	35	1.5	27	23.5	7008481500	VP/24-E-10-L10
10	L 12	PN 370	21.8	10	33.5	28	35	35	1.5	27	23.3	7008481700	VP/24-E-10-L12
10	S 12	PN 370	21.8	8	33.5	29.5	35	37	1.5	27	25.0	7008482500	VP/24-E-10-S12
12	L 15	PN 370	26.8	12	38.3	31	40	38	1.7	36	43.6	7008481900	VP/24-E-12-L15
12	S 16	PN 370	26.8	12	38.3	33.5	40	42	1.7	36	45.5	7008482700	VP/24-E-12-S16
16	L 18	PN 350	30.9	15	40.1	37.5	42	45	1.9	41	66.4	7008482100	VP/24-E-16-L18
16	S 20	PN 350	30.9	16	40.1	38.5	42	49	1.9	41	68.3	7008482900	VP/24-E-16-S20

Straight bulkhead unions 24°

VOSSPlug sleeve: VOSS standard

Tube coupling: 24° in acc. with ISO 8434-1

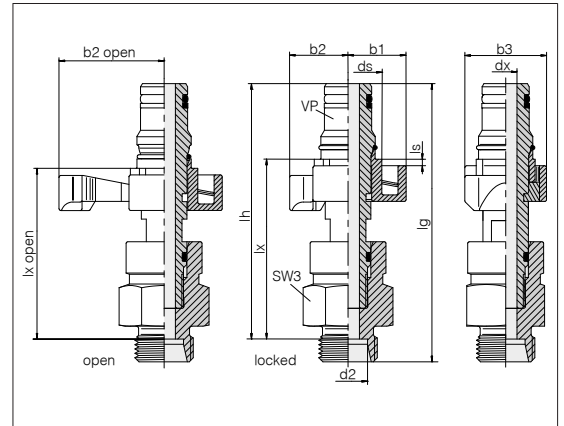


VP	Series Tube OD d2	d3	Pressure	ds	dx	l2	l5	l8	l9	l10	SW1	SW4	kg/100 ca.	Order-No.	Designation
06	L 8	M 22 x 1.5	PN 400	18.5	6	13.7	29	51	1.3	27	30	14.7	7009119200	VP/24-BHSLN-L8-6	
06	S 10	M 22 x 1.5	PN 400	18.5	7	13.7	30.5	53	1.3	27	30	15.5	7009119500	VP/24-BHSLN-S10-6	
10	L 10	M 26 x 1.5	PN 370	21.8	8	15.5	31	55	1.5	32	36	22.2	7009119800	VP/24-BHSLN-L10-10	
10	L 12	M 26 x 1.5	PN 370	21.8	10	15.5	31	55	1.5	32	36	22.1	7009120100	VP/24-BHSLN-L12-10	
10	S 12	M 26 x 1.5	PN 370	21.8	8	15.5	31.5	56	1.5	32	36	23.1	7009120400	VP/24-BHSLN-S12-10	
12	L 15	M 30 x 2	PN 370	26.8	12	16.3	33	58	1.7	36	41	28.3	7009120700	VP/24-BHSLN-L15-12	
12	S 16	M 30 x 2	PN 370	26.8	12	16.3	33.5	60	1.7	36	41	29.3	7009121000	VP/24-BHSLN-S16-12	
16	L 18	M 36 x 2	PN 350	30.9	15	18.1	33.5	61	1.9	41	46	40.2	7009121300	VP/24-BHSLN-L18-16	
16	S 20	M 36 x 2	PN 350	30.9	16	18.1	34.5	65	1.9	41	46	42.1	7009121600	VP/24-BHSLN-S20-16	

Straight connectors 24°

VOSSPlug connector: VOSS standard
Sealing material: HNBR

Tube coupling: 24° in acc. with ISO 8434-1



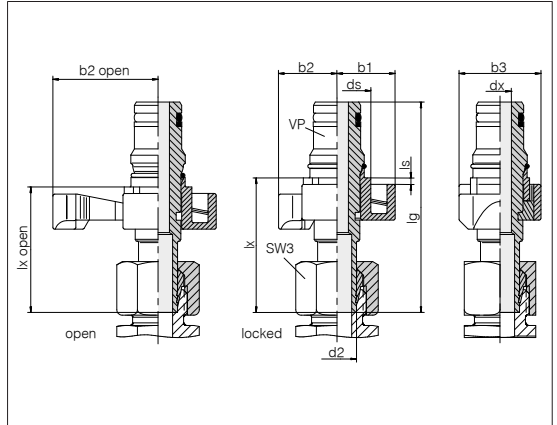
VP Series	Tube OD	Pressure	ds	dx	lg	ls	lh	lx	lx open	SW3	b1	b2	b2 open	b3	kg/100 ca.	Order-No.	Designation
06	L 8	PN 400	17.5	4	78.2	1.8	71.2	49.7	47.3	22	15.3	15.7	28.1	21.6	11.5	7009215100	VP/24-PMS-6-L8
06	S 10	PN 400	17.5	4	79.2	1.8	71.7	50.2	47.8	22	15.3	15.7	28.1	21.6	12.0	7009216600	VP/24-PMS-6-S10
10	L 10	PN 370	20.8	7	84.8	2	77.8	54.5	51.7	24	17.9	18	32.4	25.2	14.2	7009215400	VP/24-PMS-10-L10
10	L 12	PN 370	20.8	7	85.8	2	78.8	55.5	52.7	24	17.9	18	32.4	25.2	15.0	7009215700	VP/24-PMS-10-L12
10	S 12	PN 370	20.8	7	85.8	2	78.3	55	52.2	24	17.9	18	32.4	25.2	15.5	7009216900	VP/24-PMS-10-S12
12	L 15	PN 370	25.8	9.5	98.6	2.2	91.6	64.9	61.6	30	21.6	21.2	38.2	30.6	26.8	7009216000	VP/24-PMS-12-L15
12	S 16	PN 370	25.8	9.5	101.6	2.2	93.1	66.4	63.1	30	21.6	21.2	38.2	30.6	28.0	7009217200	VP/24-PMS-12-S16
16	L 18	PN 350	29.9	12.5	101.4	2.4	93.9	66.8	63.5	36	22.7	24	41	35.4	38.0	7009216300	VP/24-PMS-16-L18
16	S 20	PN 350	29.9	12.5	105.4	2.4	94.9	67.8	64.4	36	22.7	24	41	35.4	40.3	7009217500	VP/24-PMS-16-S20

These articles are special versions and therefore on request.

Swivel connectors

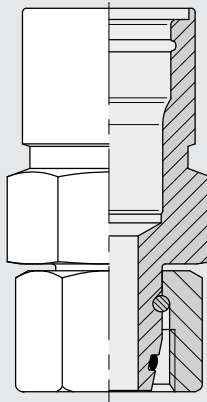
VOSSPlug connector: VOSS standard
Sealing material: HNBR

Tube socket pre-assembled
Tube coupling: 24° in acc. with ISO 8434-1



VP	Series	Pressure	ds	dx	lg	ls	lx	lx	SW3	b1	b2	b2	b3	kg/100	Order-No.	Designation
	Tube OD						open				open		ca.			
06	L 8	PN 400	17.5	4	57.7	1.8	36.2	33.8	17	15.3	15.7	28.1	21.6	6.0	7009217800	VP/24-PMSWS-6-L8
06	S 10	PN 400	17.5	4	59.7	1.8	38.2	35.8	22	15.3	15.7	28.1	21.6	8.1	7009219300	VP/24-PMSWS-6-S10
10	L 10	PN 370	20.8	7	63.3	2	40	37.2	19	17.9	18	32.4	25.2	8.3	7009218100	VP/24-PMSWS-10-L10
10	L 12	PN 370	20.8	7	64.8	2	41.5	38.7	22	17.9	18	32.4	25.2	9.3	7009218400	VP/24-PMSWS-10-L12
10	S 12	PN 370	20.8	7	64.3	2	41	38.2	24	17.9	18	32.4	25.2	10.8	7009219600	VP/24-PMSWS-10-S12
12	L 15	PN 370	25.8	9.5	72.6	2.2	45.9	42.6	27	21.6	21.2	38.2	30.6	16.1	7009218700	VP/24-PMSWS-12-L15
12	S 16	PN 370	25.8	9.5	73.6	2.2	46.9	43.6	30	21.6	21.2	38.2	30.6	19.3	7009219900	VP/24-PMSWS-12-S16
16	L 18	PN 350	29.9	12.5	72.4	2.4	45.3	42	32	22.7	24	41	35.4	22.0	7009219000	VP/24-PMSWS-16-L18
16	S 20	PN 350	29.9	12.5	78.9	2.4	51.8	48.5	36	22.7	24	41	35.4	27.7	7009220200	VP/24-PMSWS-16-S20

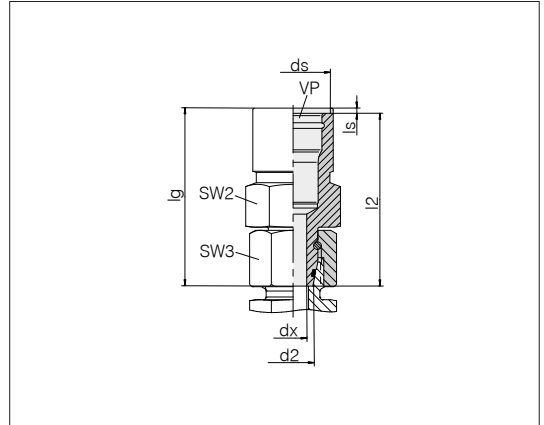
24° taper couplings (DKO)



Swivel unions

VOSSPlug sleeve: VOSS standard

24° taper and O-Ring (DKO)
acc. with ISO 8434-1
Direction adjustable

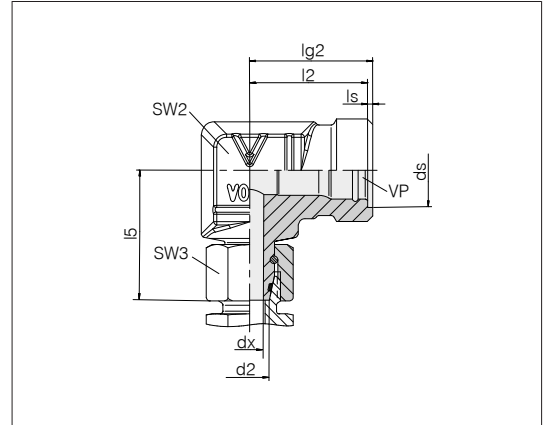


VP	Series Tube OD d2	Pressure	ds	dx	l2	lg	ls	SW2	SW3	kg/100 ca.	Order-No.	Designation
06	L 8	PN 400	18.5	4	47.7	49	1.3	22	17	9.2	7008483200	VP/24-SWOS-L8-6
06	S 10	PN 400	18.5	6	47.7	49	1.3	22	22	11.6	7008483500	VP/24-SWOS-S10-6
10	L 10	PN 370	21.8	6	50.5	52	1.5	24	19	10.8	7008483800	VP/24-SWOS-L10-10
10	L 12	PN 370	21.8	8	50.5	52	1.5	24	22	11.7	7008484100	VP/24-SWOS-L12-10
10	S 12	PN 370	21.8	8	52.5	54	1.5	24	24	13.2	7008484400	VP/24-SWOS-S12-10
12	L 15	PN 370	26.8	10	58.3	60	1.7	30	27	20.6	7008484700	VP/24-SWOS-L15-12
12	S 16	PN 370	26.8	11	56.3	58	1.7	30	30	23.2	7008485000	VP/24-SWOS-S16-12
16	L 18	PN 350	30.9	13	57.1	59	1.9	36	32	30.3	7008485300	VP/24-SWOS-L18-16
16	S 20	PN 350	30.9	14	61.1	63	1.9	36	36	37.0	7008485600	VP/24-SWOS-S20-16

Swivel elbows

VOSSPlug sleeve: VOSS standard

24° taper and O-Ring (DKO)
acc. with ISO 8434-1
Direction adjustable

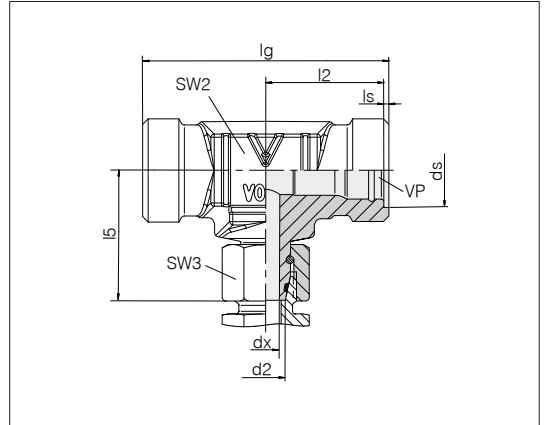


VP	Series Tube OD d2	Pressure	ds	dx	l2	l5	lg2	ls	SW2	SW3	kg/100 ca.	Order-No.	Designation
06	L 8	PN 400	18.5	4	30.7	34	32	1.3	24	17	17.0	7009121900	VP/24-SWOE-L8-6
06	S 10	PN 400	18.5	6	30.7	34	32	1.3	24	22	19.5	7009122200	VP/24-SWOE-S10-6
10	L 10	PN 370	21.8	6	34.5	38	36	1.5	27	19	25.0	7009122500	VP/24-SWOE-L10-10
10	L 12	PN 370	21.8	8	34.5	38	36	1.5	27	22	25.6	7009122800	VP/24-SWOE-L12-10
10	S 12	PN 370	21.8	8	34.5	39	36	1.5	27	24	26.8	7009127100	VP/24-SWOE-S12-10
12	L 15	PN 370	26.8	10	39.3	46	41	1.7	36	27	49.0	7009127400	VP/24-SWOE-L15-12
12	S 16	PN 370	26.8	11	39.3	46	41	1.7	36	30	52.2	7009127700	VP/24-SWOE-S16-12
16	L 18	PN 350	30.9	13	42.1	45	44	1.9	41	32	72.0	7009128000	VP/24-SWOE-L18-16
16	S 20	PN 350	30.9	14	42.1	48	44	1.9	41	36	76.3	7009128300	VP/24-SWOE-S20-16

Swivel branch tees

VOSSPlug sleeve: VOSS standard

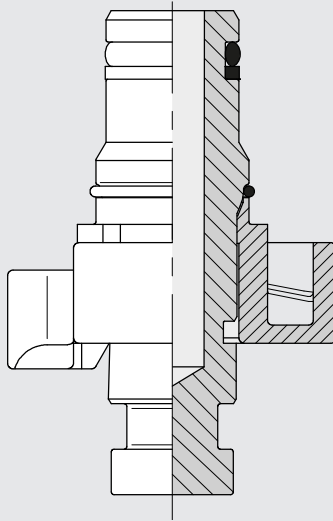
24° taper and O-Ring (DKO)
acc. with ISO 8434-1
Direction adjustable



VP	Series Tube OD d2	Pressure	ds	dx	l2	l5	lg	ls	SW2	SW3	kg/100 ca.	Order-No.	Designation
06	L 8	PN 400	18.5	4	30.7	34	64	1.3	24	17	21.4	7009128600	VP/24-SWOT-L8-6-6
06	S 10	PN 400	18.5	6	30.7	34	64	1.3	24	22	24.0	7009130100	VP/24-SWOT-S10-6-6
10	L 10	PN 370	21.8	6	34.5	38	72	1.5	27	19	32.3	7009128900	VP/24-SWOT-L10-10-10
10	L 12	PN 370	21.8	8	34.5	38	72	1.5	27	22	33.0	7009129200	VP/24-SWOT-L12-10-10
10	S 12	PN 370	21.8	8	34.5	39	72	1.5	27	24	34.0	7009130400	VP/24-SWOT-S12-10-10
12	L 15	PN 370	26.8	10	39.3	46	82	1.7	36	27	59.9	7009129500	VP/24-SWOT-L15-12-12
12	S 16	PN 370	26.8	11	39.3	46	82	1.7	36	30	63.5	7009130700	VP/24-SWOT-S16-12-12
16	L 18	PN 350	30.9	13	42.1	45	88	1.9	41	32	84.6	7009129800	VP/24-SWOT-L18-16-16
16	S 20	PN 350	30.9	14	42.1	48	88	1.9	41	36	90.4	7009131000	VP/24-SWOT-S20-16-16

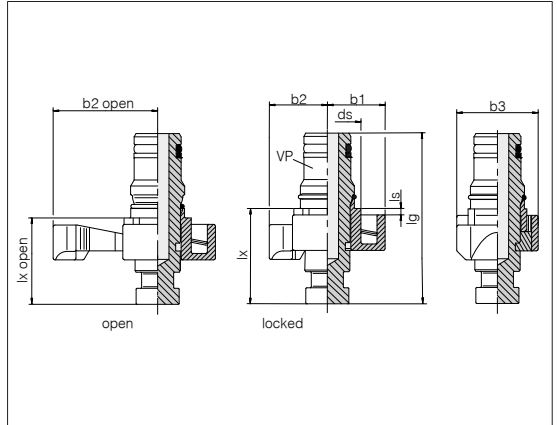


Accessories



Locking connectors

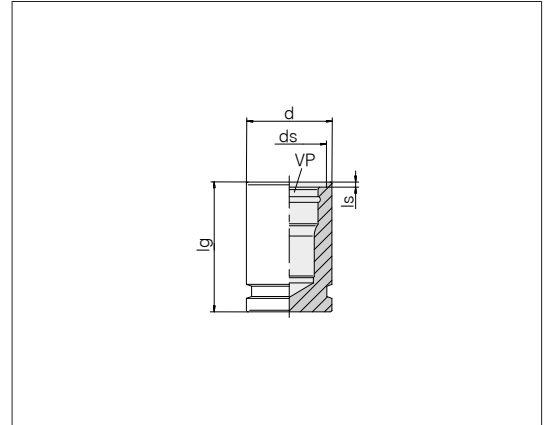
VOSS*Plug* connector: VOSS standard
Sealing material: HNBR



VP	Pressure	ds	lg	ls	lx	lx open	b1	b2	b2 open	b3	kg/100 ca.	Order-No.	Designation
06	PN 400	17.5	48	1.8	26.5	24.1	15.3	15.7	28.1	21.6	4.0	7009131700	VP-PLC-6
10	PN 370	20.8	53	2	29.7	26.9	17.9	18	32.4	25.2	7.6	7009132000	VP-PLC-10
12	PN 370	25.8	60	2.2	33.3	30	21.6	21.2	38.2	30.6	10.7	7009132300	VP-PLC-12
16	PN 350	29.9	61	2.4	33.9	30.6	22.7	24	41	35.4	14.7	7009132600	VP-PLC-16

Locking sleeves

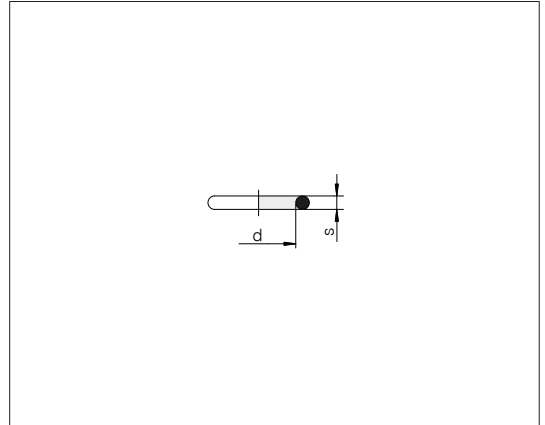
VOSSPlug sleeve: VOSS standard



VP	Pressure	d	ds	lg	ls	kg/100 ca.	Order-No.	Designation
06	PN 400	21	18.5	35	1.3	6.4	7009132800	VP-TBS-6
10	PN 370	25	21.8	38	1.5	9.5	7009133000	VP-TBS-10
12	PN 370	30	26.8	42	1.7	14.4	7009133200	VP-TBS-12
16	PN 350	35	30.9	45	1.9	21.3	7009133400	VP-TBS-16

O-rings

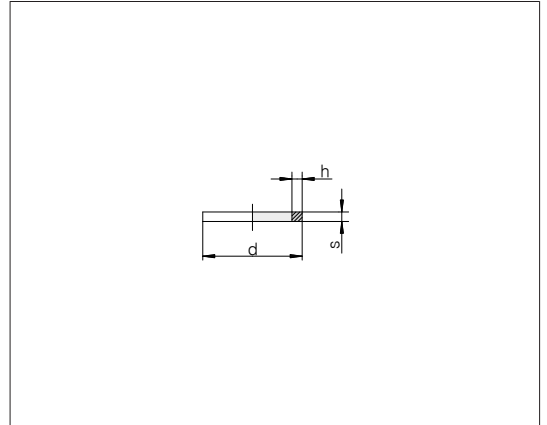
Material: HNBR
Hardness: 70 IRHD



VP	Pressure	d	s	Order-No.	Designation
06	PN 400	8	2	7006525601	GP-OR-8x2-HNBR70
10	PN 370	11	2	7006528501	GP-OR-11x2-HNBR70
12	PN 370	14	2	7006530401	GP-OR-14x2-HNBR70
16	PN 350	17	2	7006532301	GP-OR-17x2-HNBR70

Support rings

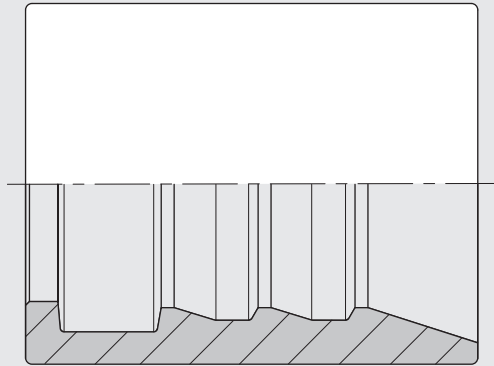
Material: PTFE (25 % GF)



3

VP	Pressure	d	s	h	Order-No.	Designation
06	PN 400	11.4	1.4	1.5	7006525700	GP-BUR-11,4x1,4x1,5-PTFE
10	PN 370	14.6	1.4	1.5	7006528600	GP-BUR-14,6x1,4x1,5-PTFE
12	PN 370	17.7	1.4	1.5	7006530500	GP-BUR-17,7x1,4x1,5-PTFE
16	PN 350	20.9	1.4	1.5	7006532400	GP-BUR-20,9x1,4x1,5-PTFE

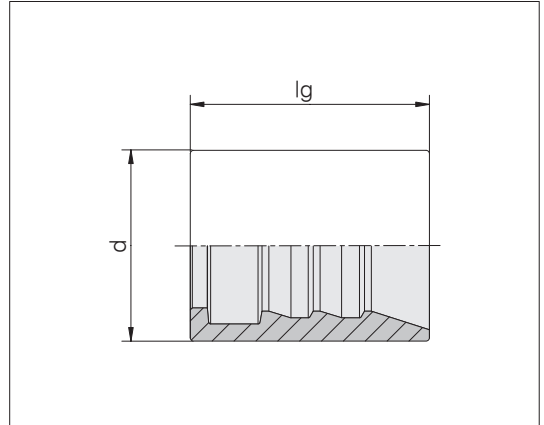
Skive swaged ferrules



PF 11

Skive swaged ferrules for wire braided hoses according to

SAE 100 R1A/R1AT
 EN 853 1ST/1SN
 EN 857 1SC/2SC
 1K/2K (exceeds 1SC/2SC)



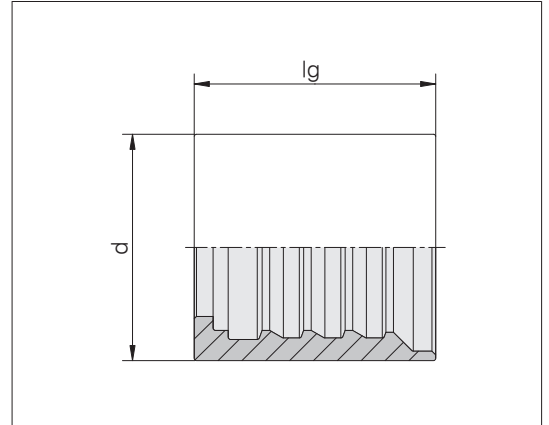
Hose size			d	lg	Order-No.	Designation
DN	Inch	Dash				
5	3/16	-03	17	26	7000029800	HF-PF11-DN05
6	1/4	-04	20	31	7000029900	HF-PF11-DN06
8	5/16	-05	21	31	7000030000	HF-PF11-DN08
10	3/8	-06	24	31	7000030100	HF-PF11-DN10
12	1/2	-08	28	35	7000030200	HF-PF11-DN12
16	5/8	-10	31	36	7000030300	HF-PF11-DN16

The maximum operating pressure is determined by the respective hose fitting and hose.

PF 12

Skive swaged ferrules for braided and spiral hoses according to

SAE 100 R2A/R2AT
EN 853 2ST/2SN
EN 856 4SP/R12



3

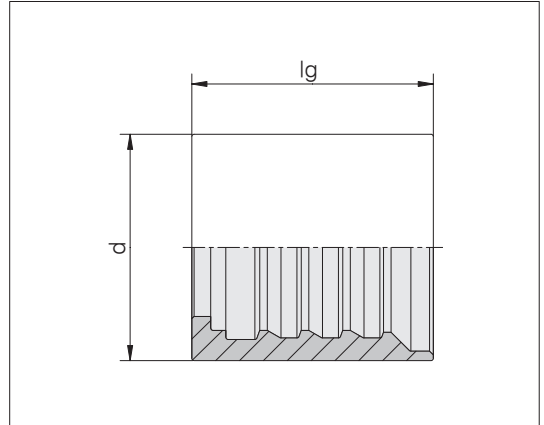
Hose size			d	lg	Order-No.	Designation
DN	Inch	Dash				
5	3/16	-03	21	26	7000219500	HF-PF12-DN05
6	1/4	-04	22	30	7000219600	HF-PF12-DN06
8	5/16	-05	23	30	7000219700	HF-PF12-DN08
10	3/8	-06	26	31	7000219800	HF-PF12-DN10
12	1/2	-08	30	32	7000219900	HF-PF12-DN12

The maximum operating pressure is determined by the respective hose fitting and hose.

PF 13

Skive swaged ferrules for braided and spiral hoses according to

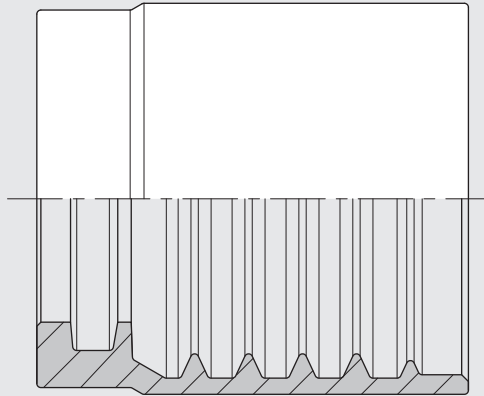
SAE 100 R2A/R2AT
EN 853 2ST/2SN
EN 856 4SP/R12



Hose size			d	lg	Order-No.	Designation
DN	Inch	Dash				
16	5/8	-10	33	38	7000220000	HF-PF13-DN16

The maximum operating pressure is determined by the respective hose fitting and hose.

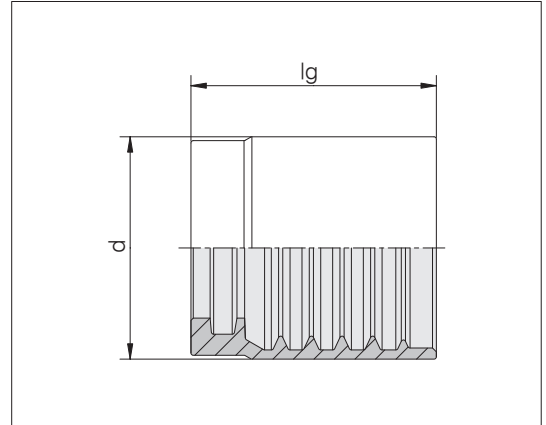
No Skive swaged ferrules



PF 22

No Skive swaged ferrules for wire braided hoses according to

SAE 100 R1AT/R2AT
EN 853 1SN/2SN



Hose size			d	lg	Order-No.	Designation
DN	Inch	Dash				
5	3/16	-03	21	23.5	7000028700	HF-PF22-DN05
6	1/4	-04	23	30	7000028800	HF-PF22-DN06
8	5/16	-05	24	30	7000028900	HF-PF22-DN08
10	3/8	-06	26	31	7000029000	HF-PF22-DN10
12	1/2	-08	29	32	7000029100	HF-PF22-DN12
16	5/8	-10	33	36	7000029200	HF-PF22-DN16

The maximum operating pressure is determined by the respective hose fitting and hose.

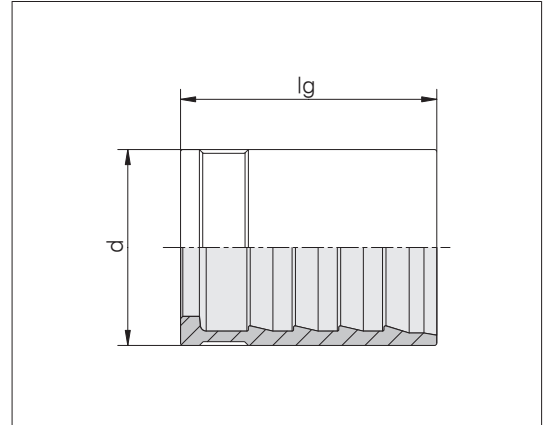
PF 23

No Skive swaged ferrules for thermoplastic hoses according to

SAE 100 R7/R8

EN 855 R7/R8

R8 hoses are limited to 1/2"



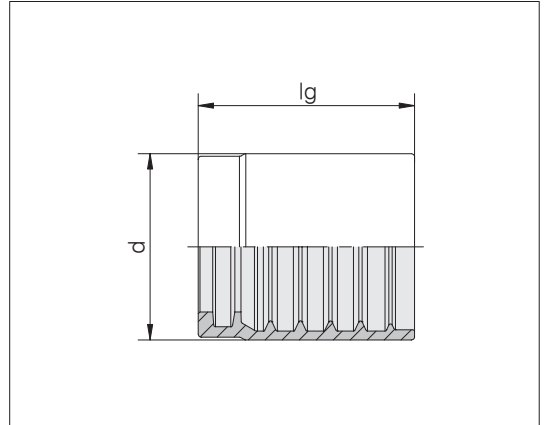
Hose size			d	lg	Order-No.	Designation
DN	Inch	Dash				
5	3/16	-03	14	26.5	7000220300	HF-PF23-DN05
6	1/4	-04	18	30.5	7000220400	HF-PF23-DN06
8	5/16	-05	19	32	7000220500	HF-PF23-DN08
10	3/8	-06	22	33	7000220600	HF-PF23-DN10
12	1/2	-08	26	34	7000220700	HF-PF23-DN12
16	5/8	-10	31	36	7002109400	HF-PF23-DN16

The maximum operating pressure is determined by the respective hose fitting and hose.

PF 24

No Skive swaged ferrules for braided hoses according to

SAE 100 R1AT
EN 853 1SN
EN 857 1SC/2SC
1K/2K (exceeds EN 857 1SC/2SC)

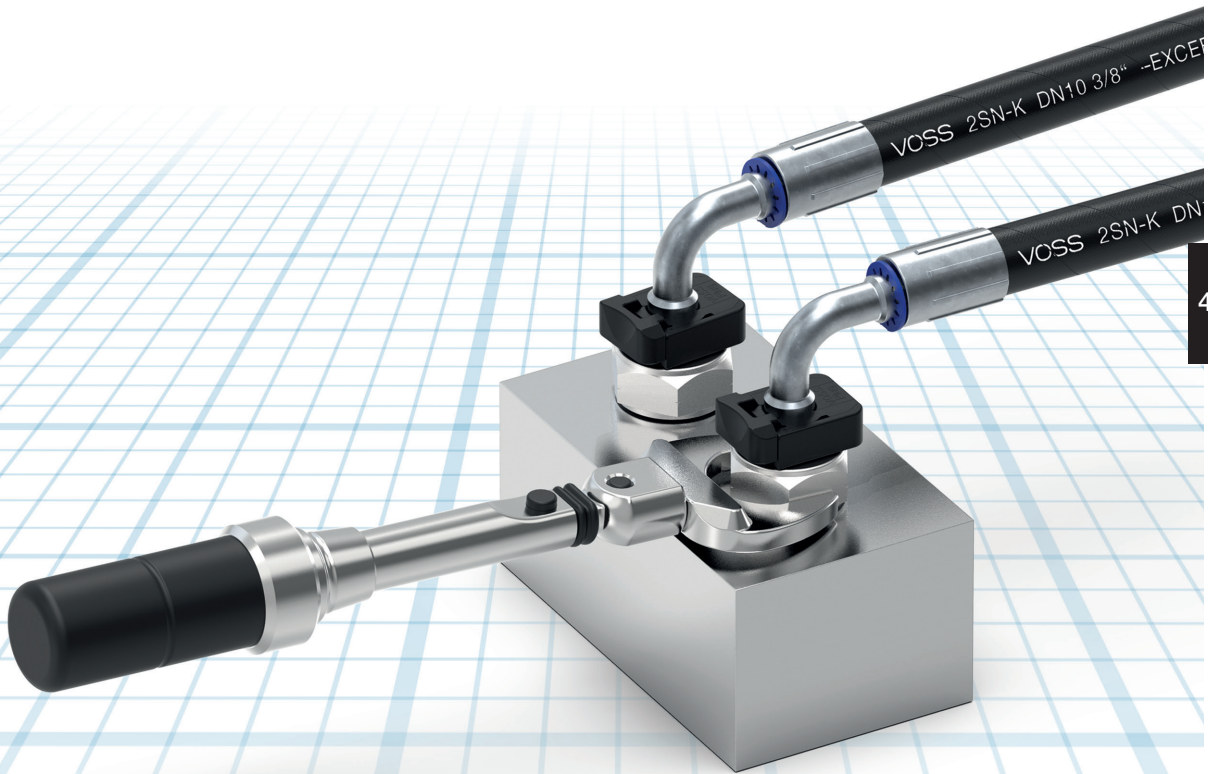


Hose size			d	lg	Order-No.	Designation
DN	Inch	Dash				
6	1/4	-04	20	30	7004061800	HF-PF24-DN06
8	5/16	-05	22	30	7004062300	HF-PF24-DN08
10	3/8	-06	24	31	7004062700	HF-PF24-DN10
12	1/2	-08	28	32	7004063400	HF-PF24-DN12
16	5/8	-10	31	36	7004063700	HF-PF24-DN16

The maximum operating pressure is determined by the respective hose fitting and hose.

Assembly instructions

For reliable assembly of the VOSSPlug connection



4

Content	Type/Page
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Important notes on VOSS assembly instructions	P.68
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General safety instructions for <i>VOSSPlug</i>	P.69
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Conditions of use and intended use of the <i>VOSSPlug</i> system	P.70
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Connection variants	P.71
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<i>VOSSPlug</i> assembly instruction	P.72
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Important notes on VOSS assembly instructions

The highest possible performance and functional reliability with VOSS products require that the respective assembly instructions, operating conditions and tube recommendations are followed.

Do not start assembly until you are sure that you have understood the operating and assembly instructions for the individual VOSS products and accessories. Incorrect handling can lead to risks for the safety and leak tightness and can lead to the complete failure of the connection.

Neither compliance with the operating and assembly instructions nor the conditions and methods for installation, operation, use and maintenance of the individual products can be monitored by the manufacturer. Improper execution can lead to property damage and as a consequence can

endanger persons. Therefore VOSS Fluid GmbH does not accept any responsibility and liability whatsoever for losses, damages or costs that result from or are in any way related to incorrect installation, improper operation and false use and incorrect maintenance. Non-compliance results in the loss of the warranty.

VOSS Fluid GmbH reserves the right to make changes and additions to the information provided without prior notification. If required, please request the latest version of the operating and assembly instructions or visit our download section at **www.voss-fluid.net**.

General information on VOSS assembly instructions

Before and during the entire assembly process always pay attention to the cleanliness of all components including the tubes and hoses. Dirt can lead to the failure of the system.

Before assembly, make sure all preparatory measures have been taken as per the respective instructions.

The current version of the crimping dimensions can be found at **www.voss-fluid.net**.

Hose preparation should always be carried out as conscientiously as the actual pre- and final assembly of the connection.

When starting to assemble VOSS components with elastomer seals, you must check the following:

- Cleanliness and damage-free condition of the groove and/or sealing surface
- Cleanliness and damage-free condition of the elastomer seal

General safety instructions for VOSSPlug

Independently of the use of the VOSSPlug system, operators of hydraulic systems must determine and implement all the measures necessary to guarantee the safe use of hydraulic lines (hoses and tubes) within the context of a risk assessment.

Alongside proper installation, this includes regular inspection and replacement of the hose assemblies in accordance with the service life specifications corresponding to the manufacturer specifications and related standards.

In addition to the Machinery Directive (2006/42/EC), or the new Machinery Ordinance (2023/1230) and the Pressure Equipment Directive (PED - directive 2014/68/EU) we refer in particular to the following sources:

- DIN EN ISO 4413:
Hydraulic fluid power – General rules and safety requirements for systems and their components
- DIN 20066:
Hydraulic fluid power – Hose assemblies – Dimensions, requirements
- DGUV regulation 113-020:
Hydraulic hose assemblies and hydraulic fluids – Rules for safe use
- DIN EN 853, DIN EN 856, DIN EN 857:
Standards for hydraulic hoses with wire braid reinforcement, spiral wire reinforcement and compact hoses

Tightening torques for male stud couplings

The tightening torques contained in the catalog apply under the following conditions:

- Steel couplings with VOSS coat surface coating
- Mating material steel, uncoated
- Our recommendations on lubrication of the male threaded studs must be noted.

For other materials, surface coatings or lubricants, the tightening torques have to be empirically adapted and checked on function and safety by the user.

Compliance with the recommended tightening torques is the prerequisite for the full utilization of the pressure specifications and the corresponding safety.

The tightening torques for the male threads are listed as recommendations in the table for the corresponding coupling types.

Explanation of the symbols and further notes



Visual inspection



Tighten hand-tight or perform other manual work



Tighten with a tool according to the specifications in the instructions



Oil, lubricate at the point marked with an arrow

All dimensions in millimeters [mm]

Conditions of use and intended use of the VOSS*Plug* system

VOSS*Plug* is an innovative plug system for use in hydraulic hose assemblies and was developed as an easy-to-assemble and economic alternative to the screw fittings already on the market such as the generally widespread DKO hose fittings according to DIN ISO 12151-2.

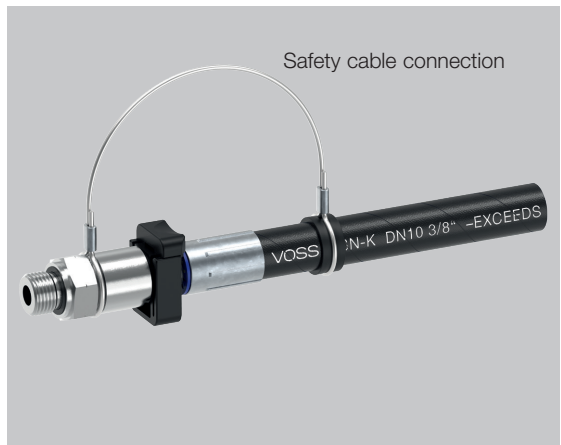
The VOSS*Plug* system was subjected to a comprehensive series of release tests, has approval from the globally recognized classification company DNV and can thus be used safely in all hydraulic systems providing the usage limits (permissible operating pressure, usage temperature range) applicable for the system are complied with.

VOSS*Plug* plug-in connections, in particular their plastic locks, must be protected from direct impact (hammer blows, gravel throw etc.).

In addition, the VOSS*Plug* system must be protected from large external forces against the direction of pressure in order to avoid damage to the locking elements.

Forces < 1,000 N for VP06, < 1,500 N for VP08/VP10 and < 2,000 N for VP12+VP16 are non-critical.

In particular under extreme conditions of use, we recommend installation under fixed covers, the routing in ducts or the use of safety cable devices at openly accessible points for VOSS*Plug* system analog to those used for screw fittings in order to prevent personal injuries.



Connection variants

With the *VOSSPlug* system, hydraulic hoses are connected pluggable and detachable to hydraulic components (valve blocks, units, cylinders, ...).

There are two variants available:

Adapter version:

Here, a male stud connector with the special *VOSSPlug* coupling contour serves as an adapter between hydraulic component and plug.

Integrated version:

The *VOSSPlug* coupling contour is inserted directly into the hydraulic component. Since the adapter element is not required here, this is a very cost-effective solution.

In addition, *VOSSPlug* offers the option of connecting hose assemblies one another or hose lines to hydraulic tubes. Corresponding connection components with cutting ring connection or as soldered version are available in the product range.



VOSSPlug assembly instruction

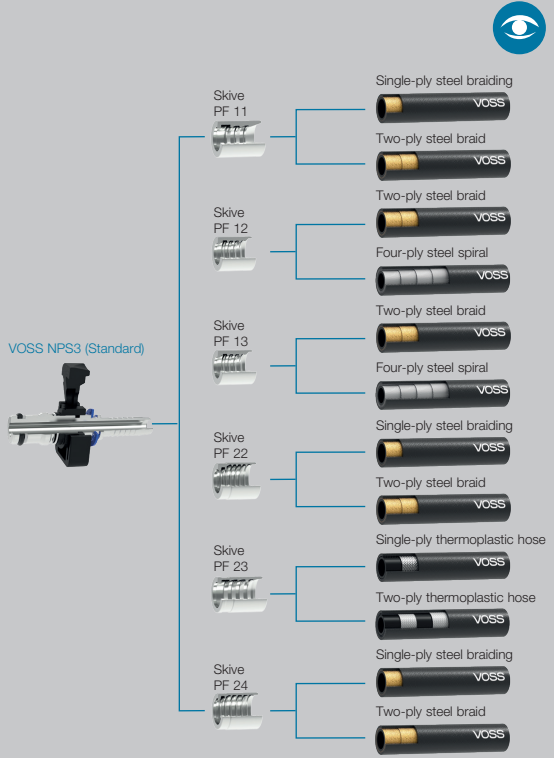
1

Pressing the hose (plug side)

VOSSPlug plugs are equipped on the hose connection side with the VOSS nipple profile NPS3 as standard and can thus be combined with all the hydraulic hoses in skive and no-skive versions.

Please consult the separate assembly instructions in our VOSS catalog for hose fittings for how to press the hose.

Please contact us if you wish to use VOSSPlug with other hoses not approved for use by VOSS.



2

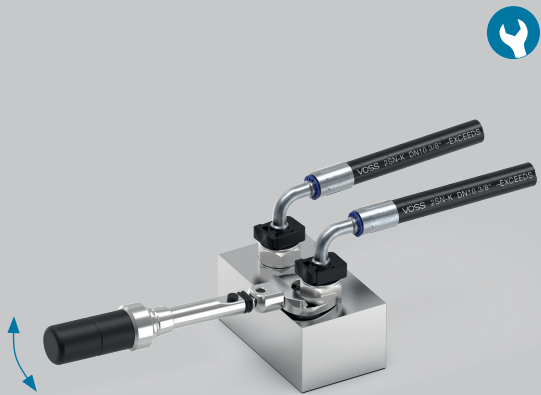
Preparation on the coupling side

Adapter version:

Screw the male stud connector into the threaded hole of the hydraulic component. You will find corresponding torque specifications on the catalog pages for the respective male stud connector. Further details on the proper assembly of our male stud connectors can be found in our VOSS Hydraulic Connection Technology catalog.

Integrated version:

The VOSSPlug coupling contour has to be inserted into the hydraulic component by the customer in compliance with the drawing. Further information on the specification of the VOSSPlug form drilling and tool technology required for producing this contour is available on request.



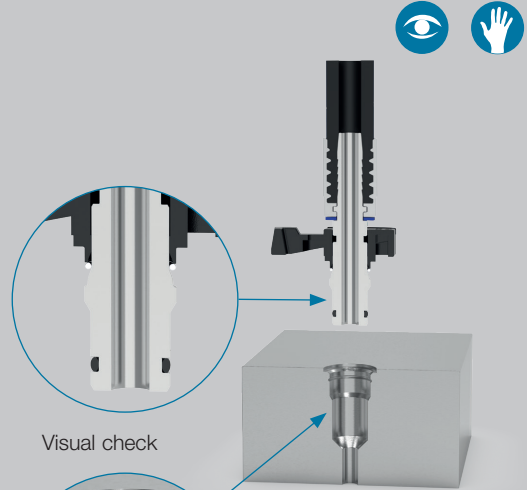
VOSSPlug

3

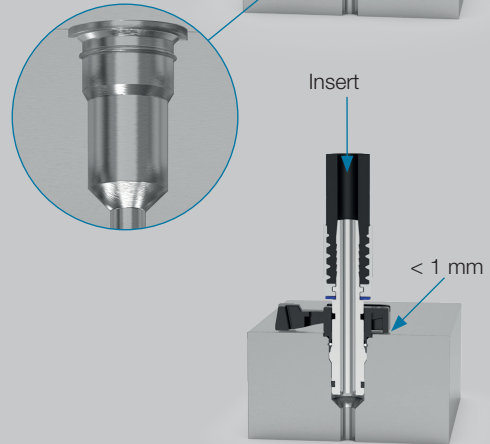
Assembly of the VOSSPlug connection

The VOSSPlug connection is assembled in three steps:

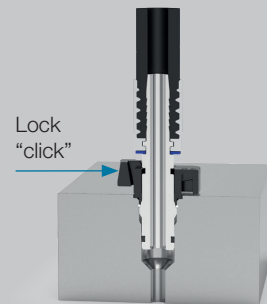
1. Check the VOSSPlug inner contour and plug outer contour as well as the sealing elements carefully for damage and to ensure they are free of dirt.



2. Insert the plug into the coupling contour as far as it will go. The plug is inserted far enough if afterwards the gap between the plastic lock and the male stud connector or hydraulic component is only very small (< 1 mm).



3. Secure the plug-in connection by pressing it with your fingers. The two locking elements will audibly engage.



4

4

Insertion and locking check

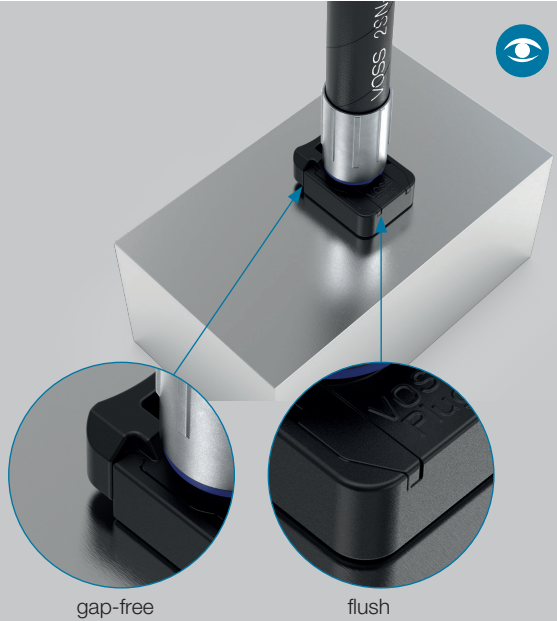


1. Tension check:

The holding function is tested in a first step by briefly tugging at the hose assembly.

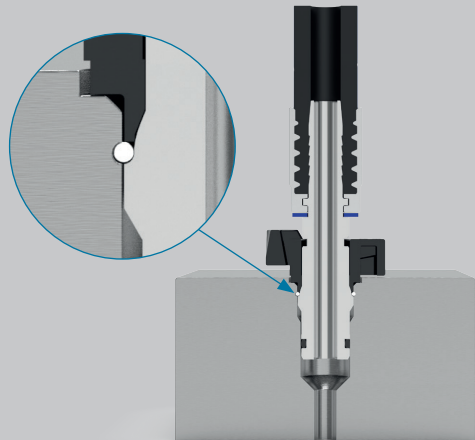
2. Visual check:

Both locking elements form a gap-free unit on one side and a flush-finish unit on the other.



The VOSSPlug safety Plus:

Compared with other plug-in systems commercially available, the patented locking concept guarantees an automatic locking mechanism and 360° chambering of the retention element which is not visible from the outside.



Automatic locking mechanism plus 360° chambering

VOSSPlug

5

Loosening the VOSSPlug connection

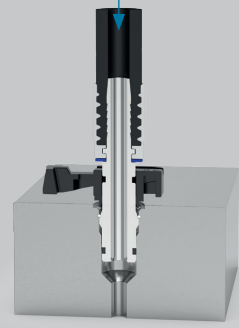
The VOSSPlug connection is loosened in three steps:

1. Open the lock using a standard screwdriver.



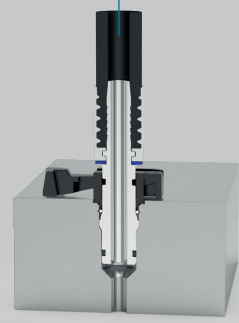
2. Move the plug by about 3 mm against the direction of pressure or "overinsert" it. This cancels the 360° fixation of the retaining element and the retaining element automatically moves to its release position.

Overinsert approx. 3 mm



3. The plug can now be pulled out of the system.

Pull out



Attention!

Only loosen the VOSSPlug system when depressurized.

4

VOSSPlug

The VOSSPlug safety Plus:

If the hydraulic system is not depressurized when the VOSSPlug is loosened, the fitter cannot carry out step 2 “overinsert”.

Possible “whipping” of the hose assembly as is possible with other commercial plug-in systems is thus safely avoided with the VOSSPlug.



6

Repeat assembly

The VOSSPlug has been designed for multiple repeat assemblies (up to 100 plug-in cycles). Clean components, replace sealing elements if damaged, grease sealing elements using commercially available hydraulic oil. Then repeat the assembly steps (point 3).



General technical instructions / Certifications and approvals



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Permitted pressure and permitted operating temperatures P.80

Media resistance P.81



Technical notes

General safety information

- The products listed in this catalog are intended exclusively for fluid technology applications. They cover the spectrum from normal to extreme operating conditions.
- The highest possible performance and functional reliability with *VOSSPlug* products require that the respective assembly instructions, operating conditions and hose recommendations are followed. Non-compliance with these instructions can impair the function and leads to the loss of our warranty.
- Connecting elements under pressure must be neither tightened nor loosened. Attention, danger to life!
- Hose assemblies must be designed in such a way that they are tension-free when unassembled and all connecting elements can be easily fitted.
- Please always ensure cleanliness when handling hydraulic components. Soiling or damage can impair the function of individual components or the entire hydraulic system.
- Please observe the respective manufacturer's instructions when handling lubricants.
- When handling *VOSSPlug* products, please always follow the respective operating instructions. Non-observance can lead to dangers for people and the environment.

Standardization

In addition to the Machinery Directive (2006/42/EC), or the new Machinery Ordinance (2023/1230) and the Pressure Equipment Directive (PED - directive 2014/68/EU) we refer in particular to the following sources:

- DIN EN ISO 4413:
Hydraulic fluid power – General rules and safety requirements for systems and their components
- DIN 20066:
Hydraulic fluid power – Hose assemblies – Dimensions, requirements
- DGUV regulation 113-020:
Hydraulic hose assemblies and hydraulic fluids – Rules for safe use

- DIN EN 853, DIN EN 856, DIN EN 857:
Standards for hydraulic hoses with wire braid reinforcement, spiral wire reinforcement and compact hoses

Materials and surface protection

In the standard version, *VOSSPlug* hose fittings and connectors are manufactured from drawn steel in accordance with the technical delivery conditions as per DIN 3859-1.

They are optimally protected against corrosion as standard with the VOSS coat finish. The VOSS corrosion protection is based on a zinc-nickel base layer, a passivation and usually sealing.

The add-on parts of the *VOSSPlug* unit are made of the following materials:

- Slotted retaining element (retaining ring) made of high-strength stainless steel
- Locking elements made of high-performance plastic PPA with 50 % glass fiber
- O-ring made of low-temperature HNBR (hydrogenated acrylonitrile butadiene rubber), hardness 70 Shore A with anti-friction coating
- Slotted support ring made of PTFE with 25 % glass fiber

All components in the connector program are delivered with elastomers made of the material NBR (nitrile butadiene rubber) as standard.

As an option, seals made of FKM (fluorinated rubber) are available on request.

Please note that the function of elastomer seals is limited by external influences, media contact, friction or aging. For this reason, you should check the elastomers for damage before assembly and during maintenance or repair measures and replace them if necessary.

For elastomer seals, the instructions in DIN 7716 (requirements for storage, cleaning and maintenance) must be complied with.

Permitted pressure

For *VOSSPlug* hose fittings and the respective connector range, the relevant pressure limits are listed on the respective product data sheets in this catalog. You will find a general overview in the following table.

<i>VOSSPlug</i>	Nominal pressure
VP 06 (DN06)	400 bar
VP 10 (DN08 + DN10)	370 bar
VP 12 (DN12)	370 bar
VP 16 (DN16)	350 bar

These pressure specifications relate to the nominal pressure. The nominal pressure (PN) indicates the maximum working pressure of the coupling. This is the highest pressure at which the system or part of the system is intended to operate under stationary conditions. For load tests, the burst pressure must be at least 4 times the nominal pressure.

See the respective hose standards or hose manufacturer's specifications for details of the permitted pressures.

The system pressure must not exceed the permitted limit pressures specified for hoses and fittings.

It should be noted that continuous operation under severe conditions, such as high load changes, movements of the hose assembly or high temperatures, can impair the connection between hose and fitting and shorten the service life of the hose assembly.

In the integrated version, the *VOSSPlug* contour is plugged here directly into the hydraulic component, a hardness of the mating material ≥ 180 HB is required to avoid plastic deformations in the holding area.

If this material value is not reached, the permitted operating pressure of the complete system must be reduced or the required system pressure must be guaranteed using customer-specific release tests.

Permitted operating temperatures

For *VOSSPlug* hose fittings and the respective range of connectors, a permissible media temperature range of -40 °C to $+100$ °C and a permissible ambient temperature range of -40 °C to $+60$ °C apply.

<i>VOSSPlug</i> (with HNBR seal)	Temperature range
Media temperatures	-40 °C to $+100$ °C
Ambient temperatures	-40 °C to $+60$ °C

When elastomers are used on the connector side, the permitted media temperature range in accordance with the table must also be taken into account.

Elastomers connector side	Media temperature
Standard: NBR	-35 °C to $+100$ °C
On request: FKM	-20 °C to $+200$ °C

For hoses used with hydraulic fluids, a permitted temperature range of -40 °C to $+100$ °C usually applies. In individual cases, see the respective hose standards or hose manufacturer's specifications for temperature limits.

Dimension specifications

The dimensions in the catalog are adapted to the current standards. We reserve the right to make changes due to technical advancements.

Patents

We refer to our domestic and foreign patents, utility models, trademarks and applications for intellectual property rights.

Certification and approvals

VOSS Fluid is certified according to ISO 9001 and ISO 14001 by TÜV Rheinland.

The *VOSSPlug* hose fittings have been approved by the important acceptance organization Det Norske Veritas (DNV).

Other approvals on request.

Media resistance

VOSS hose fittings have been designed for the use of commercially available hydraulic oils.

In the case of critical media, contact our customer service department before use.

Orders

All items listed in this catalog are delivered as shown. To improve stock keeping and to protect against dirt and damage, delivery is made in closed packaging units.

Orders should correspond to the contents of these packaging units. The quantities for the individual packaging units can be found in the current price list. If smaller quantities are required which are less than the contents of the packaging unit, we recommend that you purchase them from our dealers.

Our general terms and conditions of business apply at **www.voss-fluid.net**.

Customer service

Feel free to have our customer service department advise you. Please contact our sales department or one of our field representatives.

VOSS

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