

HPX
Hydraulics



Stäubli HPX non-spill range

specially designed for high pressure pulsating or vibrating hydraulic lines.

Non-spill, flush face design

With non-spill flush faces, the HPX connector prevents the introduction of air into the circuits and any contamination of the working area.

Easy connection

The pre-guiding system of the plug into the socket eases the connection of hydraulic hoses.

Safe claw locking mechanism

Prevents accidental disconnection due to mechanical or vibration forces.

Protective seals

- A sealing barrier protects the main seal from dirt.
- Socket and plug are supplied with dust caps.
- The retractable locking sleeve (HPX 08 to HPX 25) and the flush face design facilitate effective cleaning before coupling.

Minimum pressure drop

The circuit is designed for direct flow without breaking the stream and without any turbulence.

Robust, quick screw locking mechanism

HPX connection is made using the robust thread, with a quick start trapezoidal thread.



The opportunity to spend less and contribute to a sustainable development programme

With Stäubli, you can rely on the performance of your equipment, reliability of long-term investments, no workplace pollution.

4 types of seals

- Nitrile, Fluorocarbon, Polyurethane for mineral or synthetic oil hydraulic circuits.
- Ethylene-Propylene for glycol water and Skydrol® circuits.

Convenient locking system

- Locking sleeve with both threaded (M 8) and plain holes for tommy bar for ease of tightening.
- For large diameters, HPX 20 to HPX 33 may be ordered with integrated handwheel.

Protective dust caps

To protect the socket and plug in disconnection position.

2 materials available:

- From HPX 08 to HPX 25: Chloroprene
- From HPX 08 to HPX 33: anodised light alloy

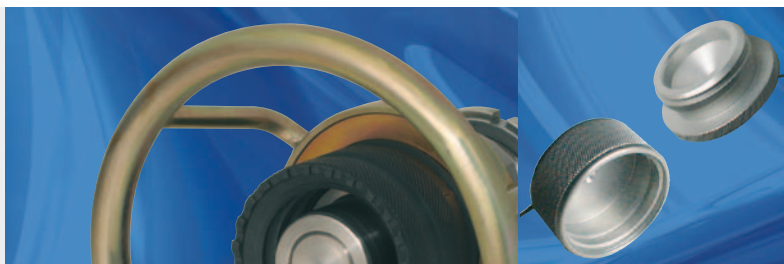
The light alloy caps for HPX 08 to HPX 25 come in 4 colours:

- Colourless
- Red
- Yellow
- Blue

for prompt visual identification of the circuits.

HPX 33:

Anodised light alloy in red.



Connectors especially recommended for:

- **Steel industry:** rolling mills.
- **Road making and building equipment:** hydraulic driven machinery, quick tool change, tunnel boring machine.
- **Aeronautics:** test benches, endurance testing, launch pads and launch platforms.
- **Automotive:** aluminium die casting, foundry tools.
- **Mechanical construction:** cutting, punching, tube bending, deformation, forming and hydroforming.

Flow rate/pressure drop charts

Zone A: all seals

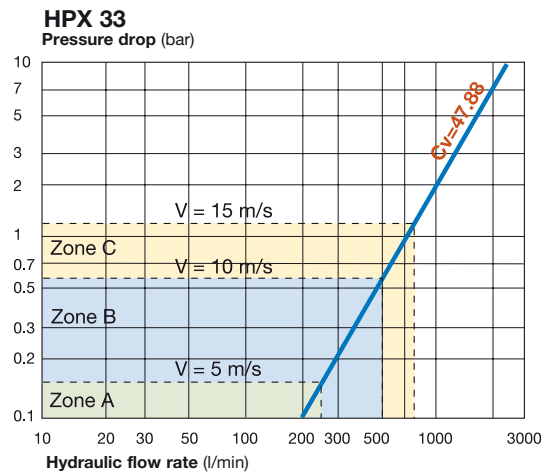
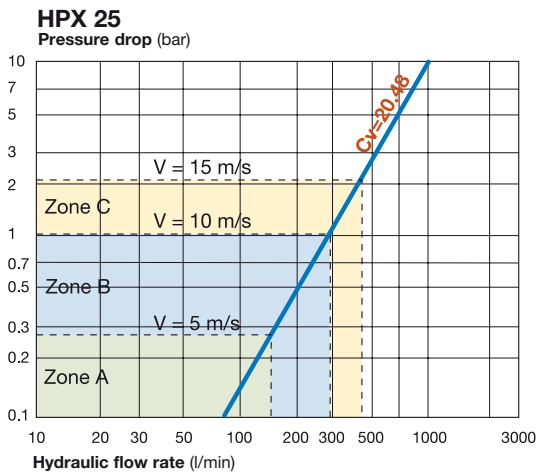
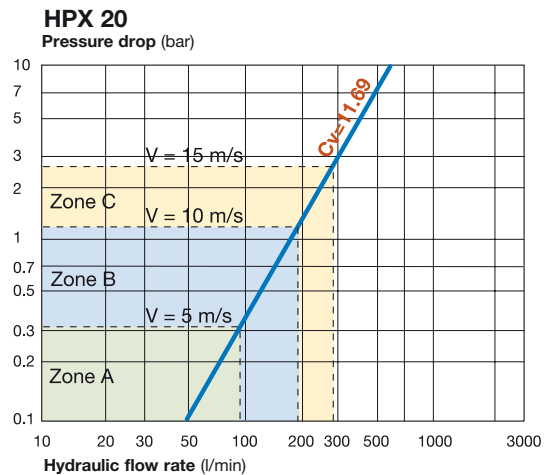
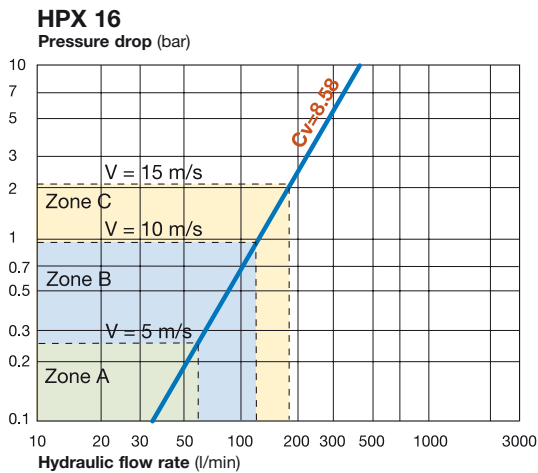
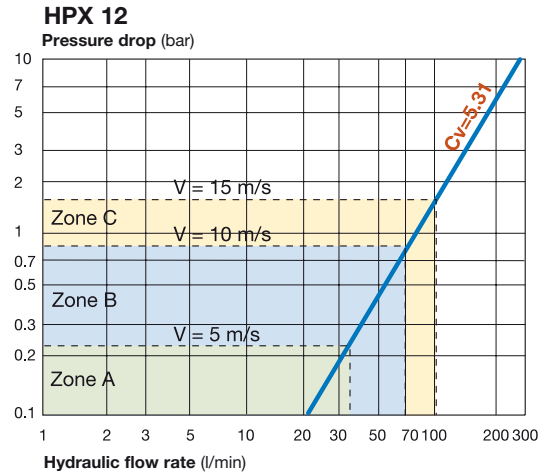
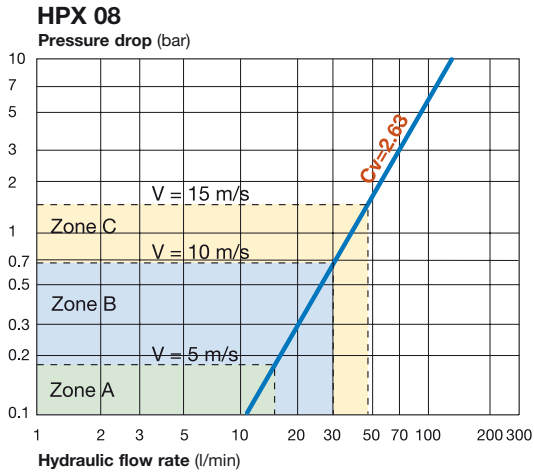
Zone B: Nitrile, Fluorocarbon and Polyurethane seals
temperature $\leq 60^\circ\text{C}$

Zone C: Polyurethane seals
temperature $\leq 60^\circ\text{C}$
no water-based fluid.

Test conditions:

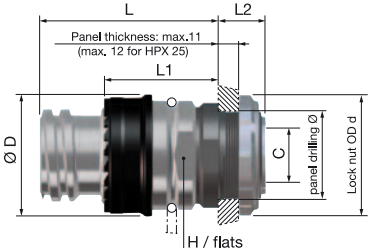
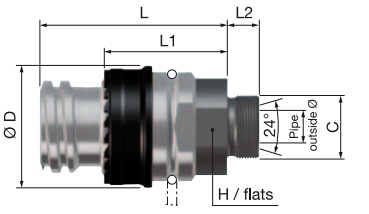
- fluid : water at 20°C
- direction of flow: socket \rightarrow plug

Speed (m/s)	Flow rate (l/min)					
	HPX 08	HPX 12	HPX 16	HPX 20	HPX 25	HPX 33
5	15	34	60	94	147	256.5
10	30	68	120	188.5	294.5	513
15	45	102	180	283	442	770



Part-numbers

Sockets

Designation	Model	Connection C or pipe outside Ø	Dimensions (mm)						Part-numbers	
			Ø D	L	L1	L2	H/flats	Ø		Ø d
1. Socket female thread HPX 08 HPX 12 HPX 16 HPX 20 HPX 25 HPX 33	HPX 08	G 1/2	50	75	45.5		32		HPX 08.1103	
		NPT 1/2	50	75	45.5		32		HPX 08.1203	
		UN 3/4 - 16 ^(a)	50	75	45.5		32		HPX 08.1319	
	HPX 12	G 3/4	59.5	93.5	58.5		46		HPX 12.1104	
		NPT 3/4	59.5	93.5	58.5		46		HPX 12.1204	
		UN 1 1/16 - 12 ^(a)	59.5	99	64		46		HPX 12.1327	
	HPX 16	G 1	68.5	108.5	67.8		50		HPX 16.1105	
		NPT 1	68.5	108.5	67.8		50		HPX 16.1205	
		UN 1 1/16 - 12 ^(a)	68.5	108.5	67.8		50		HPX 16.1333	
	HPX 20	G 1	73	110	69.5		50		HPX 20.1105	
		NPT 1	73	110	69.5		50		HPX 20.1205	
		UN 1 5/16 - 12 ^(a)	73	110	69.5		50		HPX 20.1333	
HPX 25	G 1 1/4	91	140.5	88		65		HPX 25.1106		
	NPT 1 1/4	91	140.5	88		65		HPX 25.1206		
	UN 1 5/8 - 12 ^(a)	91	140.5	88		65		HPX 25.1341		
HPX 33	G 1 1/2	109	153	94.5		80		HPX 33.1107		
	UN 1 7/8 - 12 ^(a)	109	153	94.5		80		HPX 33.1347		
2. Panel mount socket female thread 	HPX 08	G 1/2	50	71	41	22	36	31	44	HPX 08.2103
		NPT 1/2	50	71	41	22	36	31	44	HPX 08.2203
		UN 3/4 - 16 ^(a)	50	71	41	22	36	31	44	HPX 08.2319
	HPX 12	G 3/4	59.5	90.5	55.5	22	46	41	55.5	HPX 12.2104
		NPT 3/4	59.5	90.5	55.5	22	46	41	55.5	HPX 12.2204
		UN 1 1/16 - 12 ^(a)	59.5	90.5	55.5	22	46	41	55.5	HPX 12.2327
	HPX 16	G 1	68.5	100.5	59.8	24	56	51	68	HPX 16.2105
		NPT 1	68.5	100.5	59.8	24	56	51	68	HPX 16.2205
		UN 1 1/16 - 12 ^(a)	68.5	100.5	59.8	24	56	51	68	HPX 16.2333
	HPX 20	G 1	73	102	61.5	24	56	51	68	HPX 20.2105
		NPT 1	73	102	61.5	24	56	51	68	HPX 20.2205
		UN 1 5/16 - 12 ^(a)	73	102	61.5	24	56	51	68	HPX 20.2333
	HPX 25	G 1 1/4	91	131	78.5	26.5	65	61	81	HPX 25.2106
		NPT 1 1/4	91	131	78.5	26.5	65	61	81	HPX 25.2206
		UN 1 5/8 - 12 ^(a)	91	131	78.5	26.5	65	61	81	HPX 25.2341
	3. Socket male thread for hydraulic pipes with 24° taper according to ISO 8434-1 series S 	HPX 08	M 20 x 1,5 for pipes with tubes outside Ø 12 mm	50	74	44.5	12	32		HPX 08.1612
			M 24 x 1,5 for pipes with tubes outside Ø 16 mm	50	74	44.5	14	32		HPX 08.1616
		HPX 12	M 24 x 1,5 for pipes with tubes outside Ø 16 mm	59.5	93.5	58.5	14	46		HPX 12.1616
M 30 x 2 for pipes with tubes outside Ø 20 mm			59.5	93.5	58.5	16	46		HPX 12.1620	
HPX 16		M 36 x 2 for pipes with tubes outside Ø 25 mm	68.5	105.5	64.8	18	50		HPX 16.1625	
HPX 20		M 42 x 2 for pipes with tubes outside Ø 30 mm	73	108	67.5	20	50		HPX 20.1630	
HPX 25		M 55 x 2 for pipes with tubes outside Ø 38 mm	91	130.5	78	22	65		HPX 25.1638	

Length of connected socket and plug: add L1 of the socket to L of the corresponding plug.
 (a): leak tightness profile according to standard SAE J 1926-1.

Leak tightness

Optional Fluorocarbon, Polyurethane or Ethylene-Propylene seals are available on all the models. Add the corresponding code to the socket and plug part-numbers:

JV = Fluorocarbon (FPM) seal

JPV = Polyurethane (PU) seal

41B8 = Ethylene-Propylene (EPDM) seal

E.g.: HPX 08.1103/JV

Coloured metal plug

Option available for HPX 08 to HPX 25: add the colour code to the socket and plug part-numbers.

BM = "colourless" anodised cap

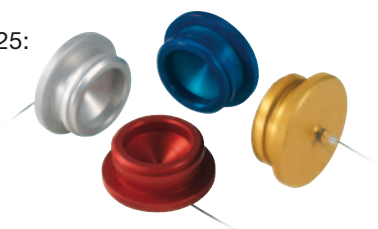
BMJ = yellow anodised cap

BMR = red anodised cap

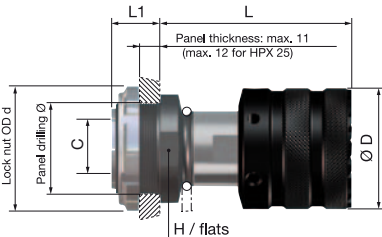
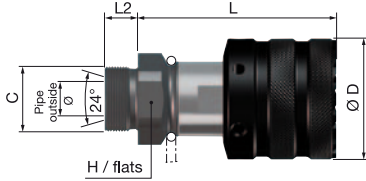
BMB = blue anodised cap

E.g.: HPX 08.1103/BMB: connector with blue coloured cap

Sockets and plugs HPX 33 are fitted as a standard with an anodised metal cap in red.



Plugs

Designation	Model	Connection C or pipe outside Ø	Dimensions (mm)					Part-numbers	
			Ø D	L	L1	H/flats	Ø		Ø d
4. Plug female thread HPX 08 HPX 12 HPX 16 HPX 20 HPX 25 HPX 33	HPX 08	G 1/2	47	95		30			HPX 08.7103
		NPT 1/2	47	95		30			HPX 08.7203
		UN 3/4 - 16 ^(a)	47	89		30			HPX 08.7319
	HPX 12	G 3/4	57	107		38			HPX 12.7104
		NPT 3/4	57	107		38			HPX 12.7204
		UN 1 1/16 - 12 ^(a)	57	110		38			HPX 12.7327
	HPX 16	G 1	65.5	120.5		46			HPX 16.7105
		NPT 1	65.5	120.5		46			HPX 16.7205
		UN 1 1/16 - 12 ^(a)	65.5	118		46			HPX 16.7333
	HPX 20	G 1	70	124		46			HPX 20.7105
		NPT 1	70	124		46			HPX 20.7205
		UN 1 5/16 - 12 ^(a)	70	122		46			HPX 20.7333
	HPX 25	G 1 1/4	88	139.5		58			HPX 25.7106
		NPT 1 1/4	88	137.5		58			HPX 25.7206
		UN 1 5/8 - 12 ^(a)	88	137.5		58			HPX 25.7341
HPX 33	G 1 1/2	103	157		70			HPX 33.7107	
	UN 1 7/8 - 12 ^(a)	103	157		70			HPX 33.7347	
5. Panel mount plug female thread 	HPX 08	G 1/2	47	85	22	35	31	44	HPX 08.5103
		NPT 1/2	47	85	22	35	31	44	HPX 08.5203
		UN 3/4 - 16 ^(a)	47	85	22	35	31	44	HPX 08.5319
	HPX 12	G 3/4	57	96	22	46	41	56	HPX 12.5104
		NPT 3/4	57	96	22	46	41	56	HPX 12.5204
		UN 1 1/16 - 12 ^(a)	57	96	22	46	41	56	HPX 12.5327
	HPX 16	G 1	65.5	103.5	24	56	51	68	HPX 16.5105
		NPT 1	65.5	103.5	24	56	51	68	HPX 16.5205
		UN 1 1/16 - 12 ^(a)	65.5	103.5	24	56	51	68	HPX 16.5333
	HPX 20	G 1	70	107	24	56	51	68	HPX 20.5105
		NPT 1	70	107	24	56	51	68	HPX 20.5205
		UN 1 5/16 - 12 ^(a)	70	107	24	56	51	68	HPX 20.5333
	HPX 25	G 1 1/4	88	131.5	26.5	65	61	81	HPX 25.5106
		NPT 1 1/4	88	131.5	26.5	65	61	81	HPX 25.5206
		UN 1 5/8 - 12 ^(a)	88	131.5	26.5	65	61	81	HPX 25.5341
6. Plug male thread for hydraulic pipes with 24° taper according to ISO 8434-1 series S 	HPX 08	M 20 x 1,5 for pipes with tubes outside Ø 12 mm	47	88	12	30			HPX 08.7612
		M 24 x 1,5 for pipes with tubes outside Ø 16 mm	47	88	14	30			HPX 08.7616
	HPX 12	M 24 x 1,5 for pipes with tubes outside Ø 16 mm	57	99	14	38			HPX 12.7616
		M 30 x 2 for pipes with tubes outside Ø 20 mm	57	99	16	38			HPX 12.7620
	HPX 16	M 36 x 2 for pipes with tubes outside Ø 25 mm	65.5	107.5	18	46			HPX 16.7625
	HPX 20	M 42 x 2 for pipes with tubes outside Ø 30 mm	70	109	20	46			HPX 20.7630
HPX 25	M 55 x 2 for pipes with tubes outside Ø 38 mm	88	133.5	22	58			HPX 25.7638	

(a): leak tightness profile according to standard SAE J 1926-1.

HPX 20 to HPX 33 plugs with handwheel

Add **VT** code to part-numbers of HPX 20 to HPX 33 plugs mentioned above.

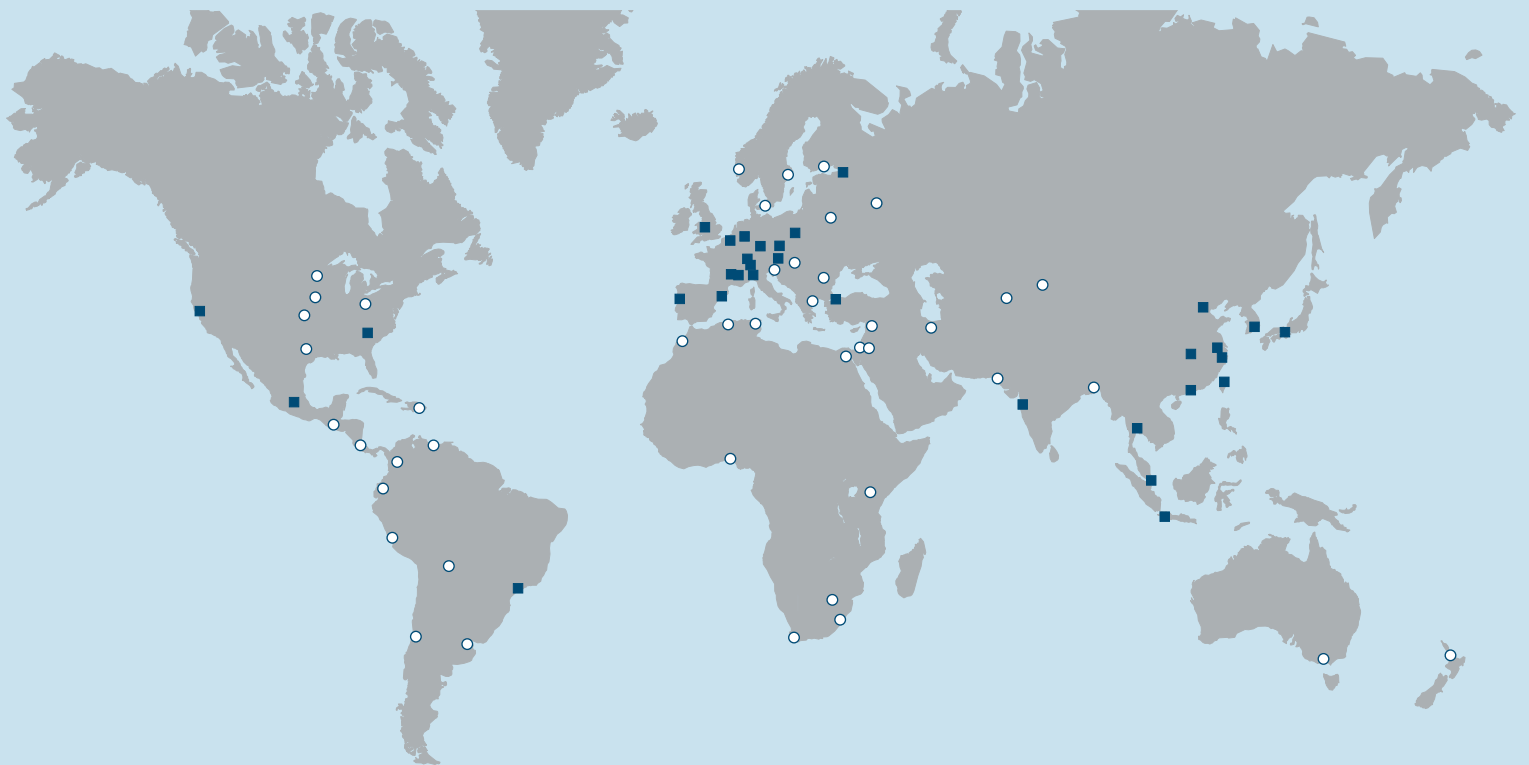
E.g.: HPX 20.7105/VT
 HPX 25.7106/VT
 HPX 33.7107/VT



Recommendations

- Allow the locking sleeve to float.
 - Install a pressure compensator if needed.
- Connection without residual pressure.

For contact details: www.staubli.com/connectors/contacts



Global presence of the Stäubli Group

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- Agents

International sales coordination

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