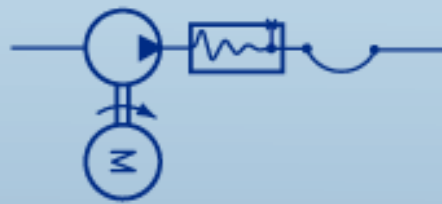


Reduction of fluid-borne noise and leakage in hydraulic systems



T P D

T.P.D. reduces structural noise by more than 95%

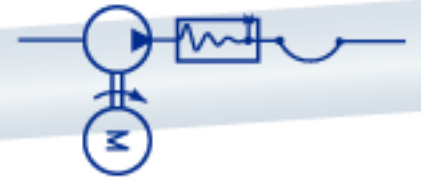
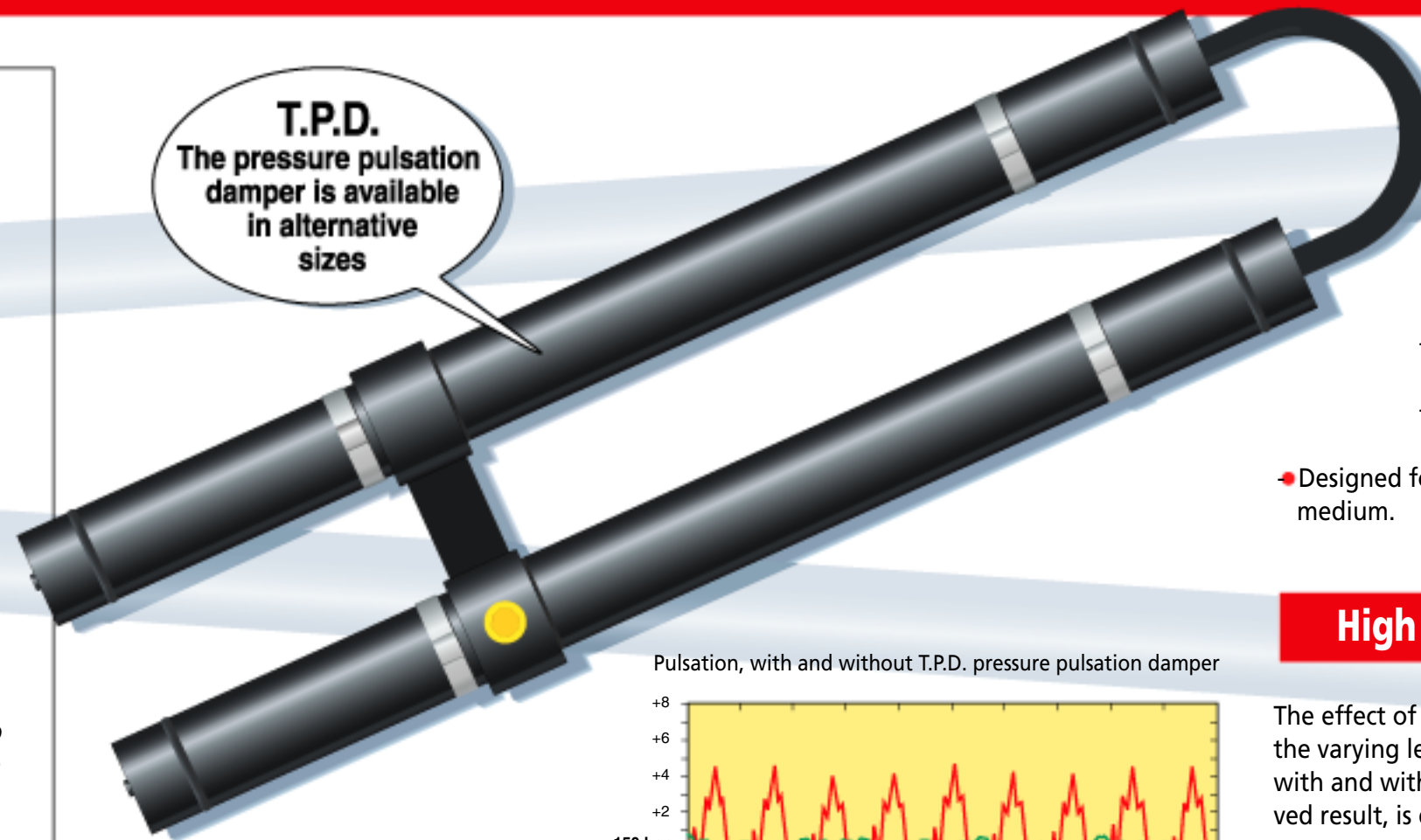
Structural noise - a disturbing problem

The sound level at industrial work sites is only partly the result of direct airborne sounds from nearby machine components and equipment. Another source of noise is the structural noise generated by vibrations in machine parts and diffused through fixed materials such as steel sheets, building or machine frames. Such background noise can often be heard far from the actual source.

Fluid-borne sounds in hydraulic systems

All types of hydraulic pumps and motors generate pressure pulsations in hydraulic liquids. The pressure pulsations are propagated into the system with a very limited cushioning in the liquid, causing pipe vibrations. These vibrations are transmitted to building and machine constructions via the contact points of the hydraulic pipes. Structure-borne sound is generated from pipes and other vibrating surfaces.

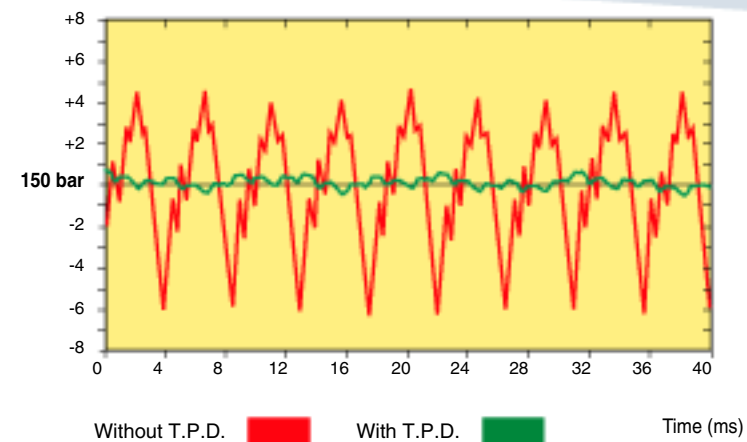
T.P.D.
The pressure pulsation
damper is available
in alternative
sizes



- The damper works independently of flow.
- Effective against frequencies higher than 100 Hz.
- Designed for and tested using oil as a pressure medium.

High damper performance

Pulsation, with and without T.P.D. pressure pulsation damper



The effect of the T.P.D. is measured by comparing the varying levels of pressure pulsations in a system, with and without damper. The difference, or achieved result, is expressed in dB.

Normally, setting-in dampening exceeding 25 dB (more than 95% reduction) is achieved by using the keynote and harmonic frequencies.

The sound level is usually reduced by approximately 10 - 20 dBA.

These figures are based on laboratory data and experience from a considerable number of installations. The damper function (the audible sound) is also affected by the design of the hydraulic system at hand.

Damper design

The T.P.D. pressure pulsation damper, developed and tested over a number of years, is based on the principle of interference, which means:

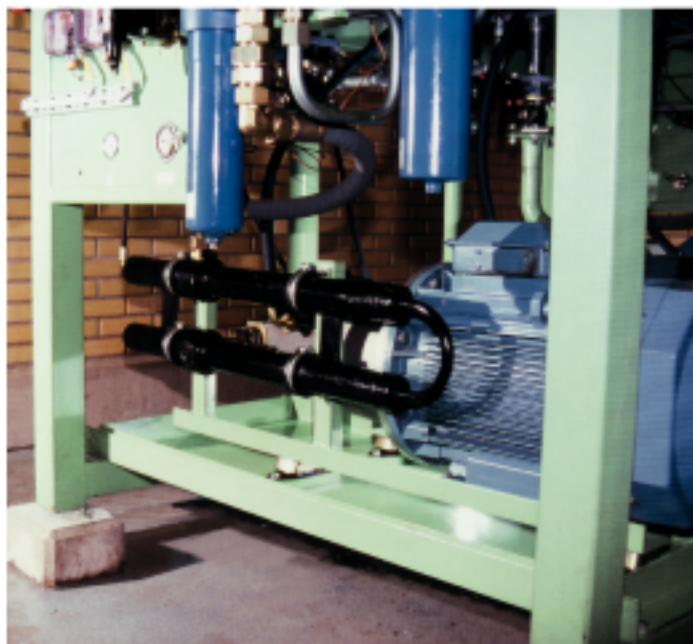
- Effective dampening throughout the relevant frequency range.
- Minimal space required, due to compact design and pipe connections.
- No movable parts which can be worn out or fatigued.

The T.P.D. pressure pulsation damper solves the problem

The pressure pulsation damper reduces pressure pulsations and related structure-borne sound problems. Vibrations in pipelines and valve panels often cause leakage, for example through fatigue in couplings and faying surfaces. When using pressure filters, the balanced liquid flow also results in more effective filtration.

In other words, the T.P.D. creates better conditions for tight, clean and silent systems.

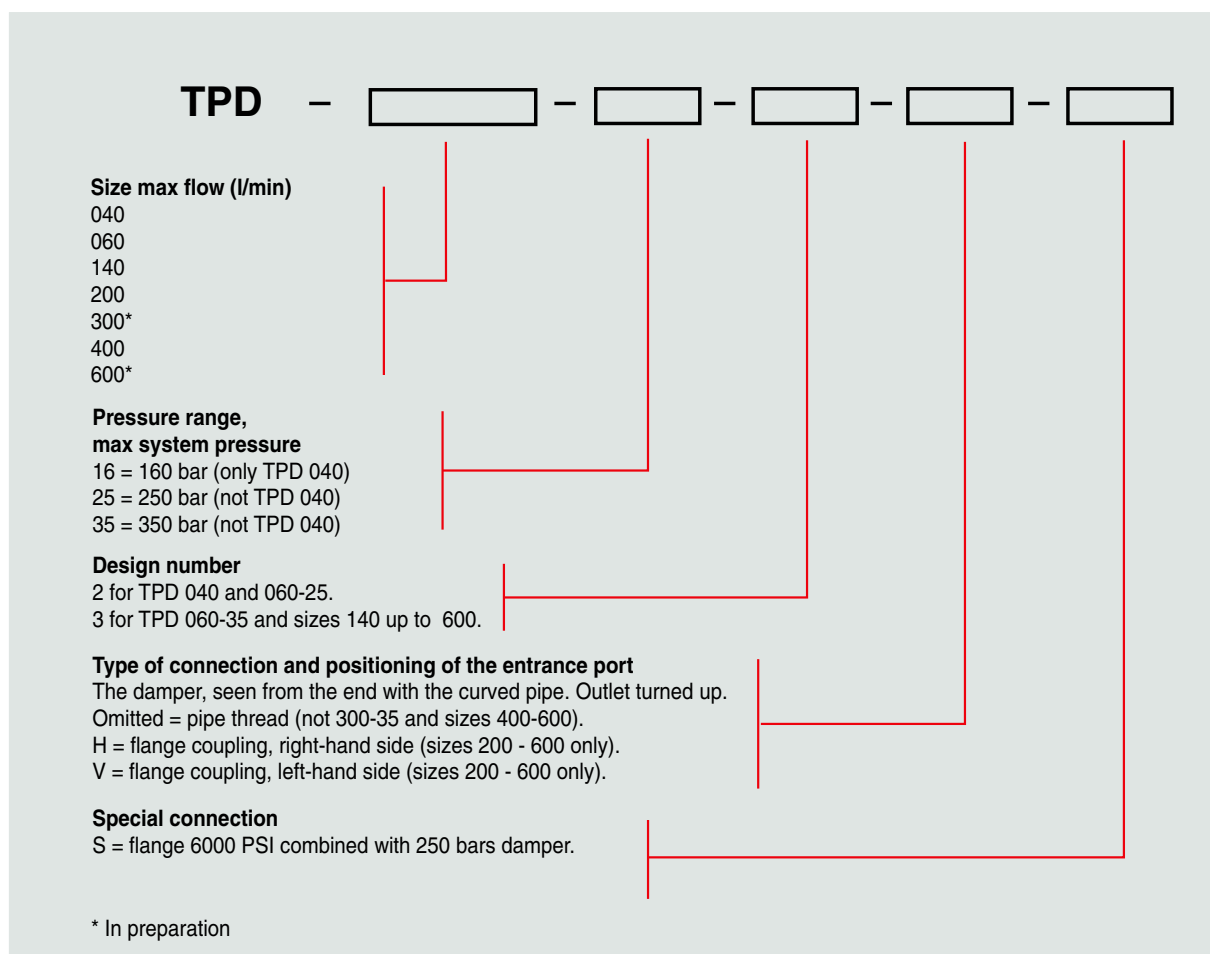
Note: Needless to say, the damper will not affect airborne sound from hydraulic pumps or electric motors.



Easy installation

The positioning of the T.P.D. can be adapted to your specific application. The simple, well thought-out design enables fast and easy installation.

Model code



Standard connections	250 bars damper (TPD-040, 160 bar)		350 bars damper	
	Flange	Pipe thread	Flange	Pipe thread
TPD 040		R 1/2"		
TPD 060		R 3/4"		R 3/4"
TPD 140		R 1"		R 1"
TPD 200	SAE 1 1/4" 3000 PSI	R 1 1/4"	SAE 1 1/4" 6000 PSI	R 1 1/4"
TPD 300	SAE 1 1/4" 3000 PSI	R 1 1/2"	SAE 1 1/4" 6000 PSI	
TPD 400	SAE 1 1/2" 3000 PSI inlet,	R 1 1/4" (2x) outlet	SAE 1 1/2" 6000 PSI inlet, R 1 1/4" (2x) outlet	
TPD 600	SAE 1 1/2" 3000 PSI inlet,	R 1 1/2" (2x) outlet	SAE 1 1/2" 6000 PSI inlet, SAE 1 1/4" (2x) outlet	

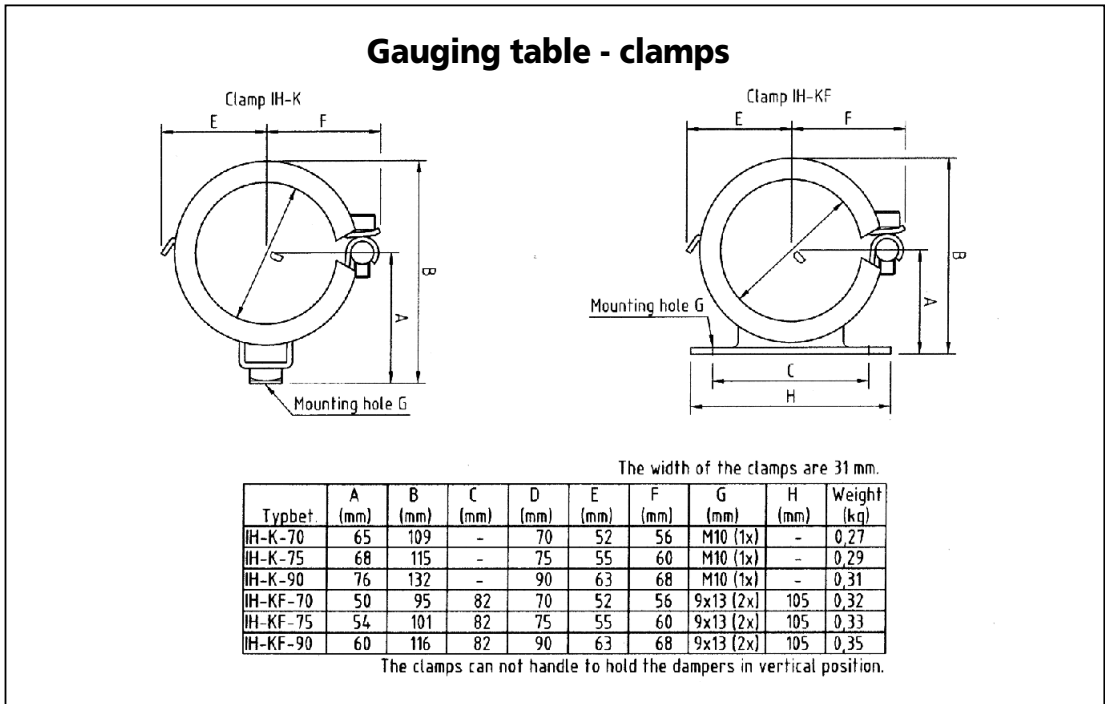
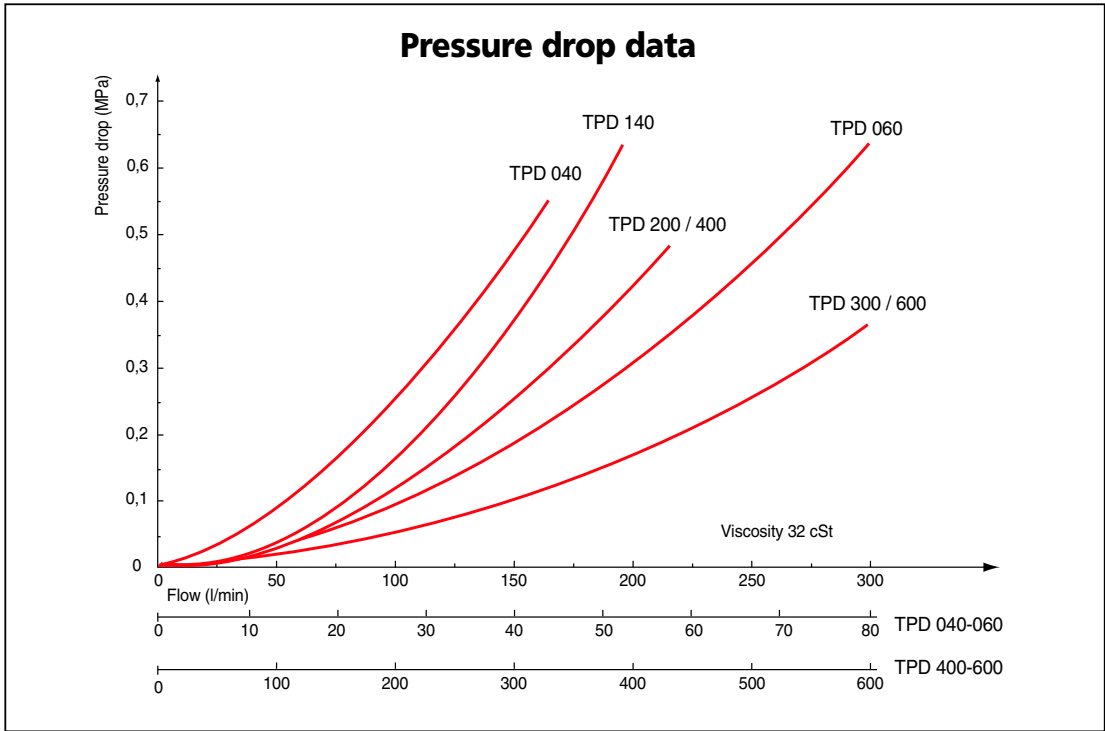
Environmental information

The consists entirely of steel which can be recycled. To completely empty the damper from oil, remove all 1/4" plugs on the end of damper (2-4 pcs).

- A company in the Hexagon Automation AB -



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 Visiting address: Maltesholmsvägen 88, Hässelby



Installation instructions

- Connect the damper as close as possible (max 0,5 m for pipe and couplings) on the pressure side of the pump. The entry port of the damper is marked 'A'.
- Connect the damper's outlet port (marked 'B') to the pipe system with a flexible hose which is at least 1 m long.
- Separate the pump and the damper, vibration-wise, from the pipe system and the suction pipe (not butt connections such as stay crutches).
- If possible, mount the pump and the damper on the same base, vibration-insulated against the frame or ground. Dimension according to the lowest interference frequency.
- Fasten the damper with clamps (see dimension print above). Under normal conditions, use 2 pcs for TPD-40 and TPD-60, 3 pcs for TPD-140 and 4 pcs for the TPD-200 to -600 range.
- **Mounting position:** The damper can be mounted in any position. Mounting the TPD-060 vertically, or any of the other damper models with the 1/4 plugs downwards, you may encounter problems with trapped air.

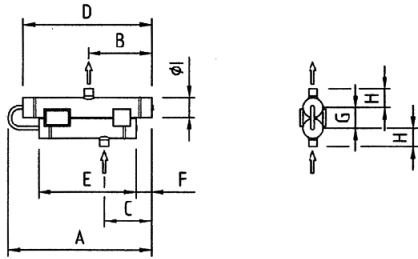
When in doubt, and when you are unable to follow these instructions, please contact your Hydraulik Leverantören representative.

Gauging table - T.P.D. damper

TPD-040-16

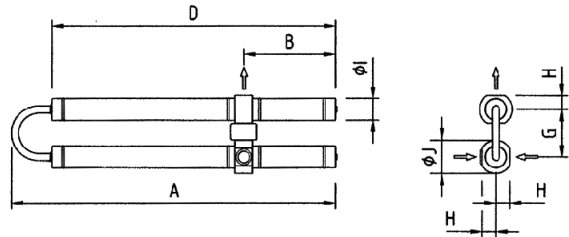
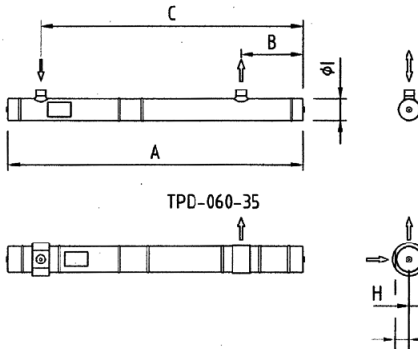
Måttabell dokument 4-04336 rev. E 97-07-09

TPD-140-25/35



TPD-060-25

TPD-200/300-25/35



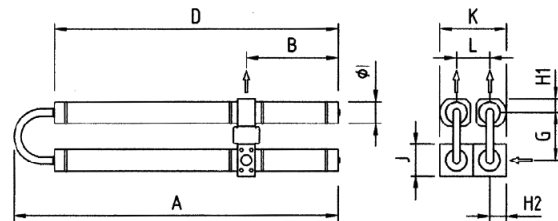
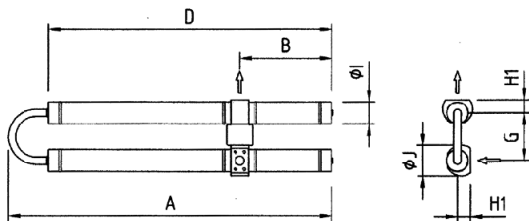
Gauge ports G1/4" in all models.

Model	Connection	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	Weight (kg)
TPD-040-16	G 1/2"	502	215	160	450	340	55	72	65	70	-	10
TPD-060-25	G 3/4"	1030	215	915	-	-	-	-	67	75	-	16
TPD-060-35	G 3/4"	1030	215	915	-	-	-	-	4.8	89	114	32
TPD-140-25	G 1"	828	320	-	710	560	-	134	4.8	75	114	24
TPD-140-35	G 1"	822	320	-	710	560	-	165	4.8	89	114	41
TPD-200-25	G 1 1/4"	1130	320	-	990	-	-	165	4.8	75	114	35
TPD-200-35	G 1 1/4"	1130	320	-	990	-	-	165	4.8	89	114	60
TPD-300-25	G 1 1/2"	1132	320	-	990	-	-	165	4.8	75	114	36

Inlet port marked "A", Outlet port marked "B". TPD-060-35, 140 and 200 have two inlet ports. One of these are used.

TPD-200/300-25/35 with flange connection

TPD-400/600-25/35



The pictures shows positioning of the inlet port H. Opposite side = V. (See model codes).

Model	Connection	A (mm)	B (mm)	D (mm)	G (mm)	H1 (mm)	H2 (mm)	I (mm)	J (mm)	K (mm)	L (mm)	Weight (kg)
TPD-200-25-H/V	SAE 1 1/4", 3000 PSI	1130	320	990	165	45	-	75	105	-	-	34
TPD-200-35-H/V	SAE 1 1/4", 6000 PSI	1130	320	990	165	51	-	89	120	-	-	60
TPD-300-25-H/V	SAE 1 1/4", 3000 PSI	1132	320	990	165	45	-	75	105	-	-	35
TPD-300-35-H/V	SAE 1 1/4", 6000 PSI	1132	320	990	165	51	-	89	120	-	-	61
TPD-400-25-H/V	in SAE 1 1/2", 3000 PSI ut G 1 1/4" (2x)	1130	320	990	165	48	58	75	110	231	116	73
TPD-400-35-H/V	in SAE 1 1/2", 6000 PSI ut G 1 1/4" (2x)	1130	320	990	165	48	58	89	110	231	116	121
TPD-600-25-H/V	in SAE 1 1/2", 3000 PSI ut G 1 1/2" (2x)	1132	320	990	165	48	58	75	110	231	116	74
TPD-600-35-H/V	in SAE 1 1/2", 6000 PSI ut SAE 1 1/4", 6000 (2x)	1132	320	990	165	45	58	89	110	231	116	123