

# HYVA PT-TIPPING VALVE



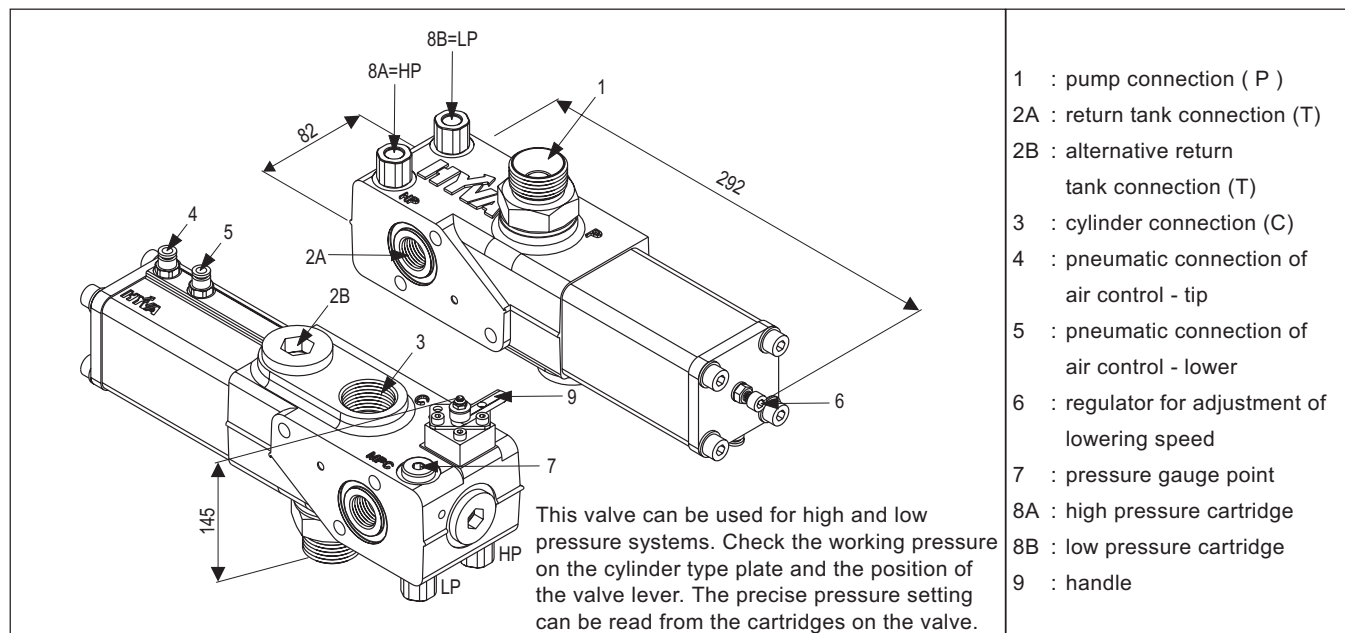
PROPORTIONAL TIPPING VALVE - AIR OPERATING

Hyva

tipping valve type:

PT 2220-valve double pressure

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- 1 : pump connection ( P )
- 2A : return tank connection ( T )
- 2B : alternative return tank connection ( T )
- 3 : cylinder connection ( C )
- 4 : pneumatic connection of air control - tip
- 5 : pneumatic connection of air control - lower
- 6 : regulator for adjustment of lowering speed
- 7 : pressure gauge point
- 8A : high pressure cartridge
- 8B : low pressure cartridge
- 9 : handle

## types

Part no.	description	max. pressure
147 67 352	PT - 2220 - 150-220	150 - 220
147 67 355	PT - 2220 - 150-250	150 - 250
147 67 358	PT - 2220 - 150-280	150 - 280
147 67 365	PT - 2220 - 150-350	150 - 350
147 67 372	PT - 2220 - 170-220	170 - 220
147 67 375	PT - 2220 - 170-250	170 - 250

(Tank mounting kit 147 35 168 is included in box PT-valve)

## specifications

type	: Spool valve with pressureless bypass in neutral. Oil flow in lowering position is proportional with pneumatic pilot pressure.
hydraulic connections	: G1"
max. peak pressure	: 350 bar
pneumatic pilot pressure	: 6-10 bar
max. advised flow	: 220 L/min. (see p-Q characteristic)
max. pressure on T-conn.	: 15 bar
filtration	: ≤ 25 μm (ISO 18/13)
oil types	: mineral oil ( DIN 51524 / 51525 )
viscosity range	: 12 / 100 mm <sup>2</sup> /s
temperature range	: -25 / + 80 °C
mass	: 6.4 kg

## general information

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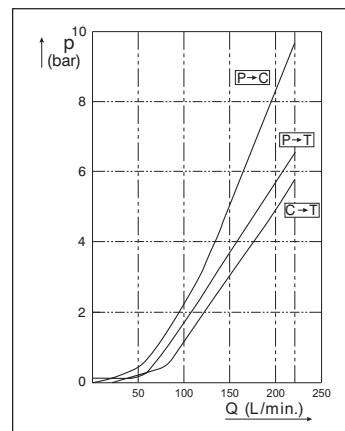
- Mount the valve according to the Hyva mounting instructions.
- Use the correct washers and adapters in the ports to prevent housing deformation.  
Do not use adapters with tapered threads.
- To further prevent deformation of the valve housing, the mounting plate surface or block must be completely flat and plane.
- Do not weld to the valve.

## p - Q characteristic

viscosity 30 mm<sup>2</sup>/s 50°C

This characteristic shows the pressure drop in relation to the flow.

- pump to tank ( P→T )
- pump to cylinder ( P→C )
- cylinder to tank ( C→T )



## mounting

### 1 standard mounting on oil tank with direct oil return

The tipping valve must be mounted onto the tank that is equipped with a valve mounting block.

- Before mounting the valve, remove the plug underneath the valve and use the O-ring between valve-return line opening and valve block.
- Grease the O-ring light before mounting so it will stay in place.
- The return-line opening on the side of the valve should be blanked off with the plug and bonded seal from the kit. ( Hyva mounting kit: 147 35 168 )
- Fit the valve to the tank mounting block with the allen bolts and washers from the mounting kit.

### 2 remote mounting on the chassis

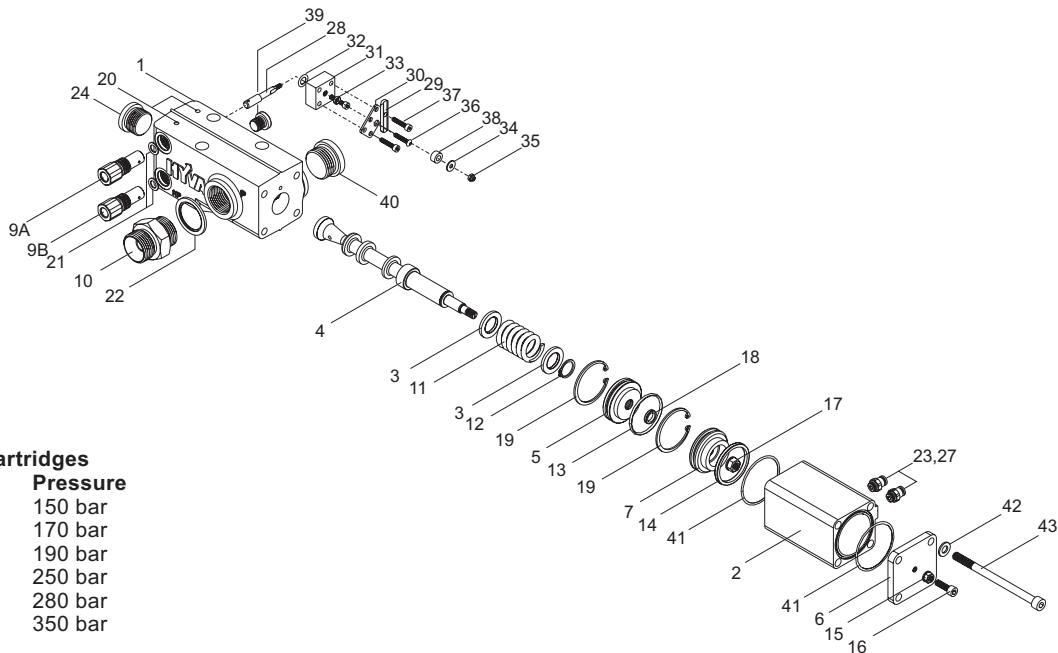
- Use the required Hyva mounting kit. ( mount. kit: 147 35 208 )
- Weld the chassis plate to the chassis.
- Fit the valve to the chassis plate with the allen bolts and washers from the mounting kit.

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Hyva tipping valve type: PT 2220-valve double pressure  
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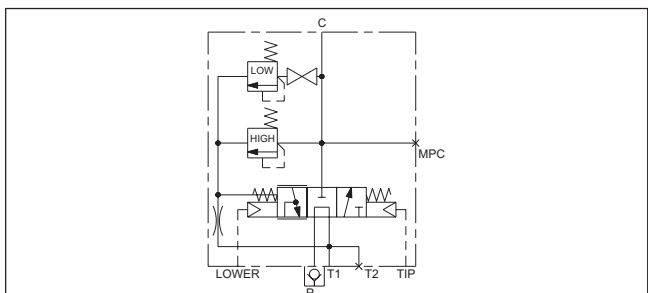
## spare parts

No.	Part no.	Description	Qty.
1		housing machined	1
2	148 45 002	aluminium head	1
3		spring disk	2
4		plunger	1
5	148 45 005	closing plug	1
6		cover air	1
7	148 45 007	piston air cylinder	1
9A	147 71 . . .	pressure cartridge	1
9B	147 71 . . .	high pressure cartridge	1
10	147 39 975 A	non return valve	1
11	147 45 011	spring	1
12		retaining ring	1
13	148 45 013	O-ring	1
14		quadrang	1
15		sealing nut	1
16		alan bolt	1
17	148 45 015	sealing nut	1
18	148 45 018	quadrang	1
19	148 45 019	retaining ring	2
20		expander	4
21		usit ring	2
22	013 13 848	bonded seal	1

## repair of the tipping valve

No.	Part no.	Description	Qty.
23	148 10 517	straight coupling	1
24	148 45 024	blind plug	1
25		plastic stop (not shown)	1
26		plastic stop (not shown)	1
27		protection cap (not shown)	2
28		handle rod	1
29		handle	1
30		handle locking plate	1
31		handle block	1
32		O-ring	1
33		O-ring	1
34		washer	1
35		locking nut	1
36		bolt	1
37		bolt	3
38		grommit	1
39	148 45 039	blind plug	1
40	148 45 040	blind plug	1
41		O-ring	2
42		washer	4
43		bolt	4

## hydraulic symbol of the PT valve



## repair of the tipping valve

The valve should be dismantled in a clean area and using the correct tools.  
If a fault has been developed which can be traced to the valve it is possible to replace the internal seals and O-rings.  
All parts should be thoroughly cleaned before re-assembly.  
Closing plug (pos. 5) must be removed/fitted with special tools ask Hyva for TBI-08-02-06 with the specified instructions.

- O-ring set: (pos. 13,14,18 & 41) = 148 44 010
- Air cylinder set (pos. 2, 5, 13 18 & 19) = 148 45 003

for specification see page # 1