

HPV1 SERIES

HYDRAULIC PILOT
CONTROL



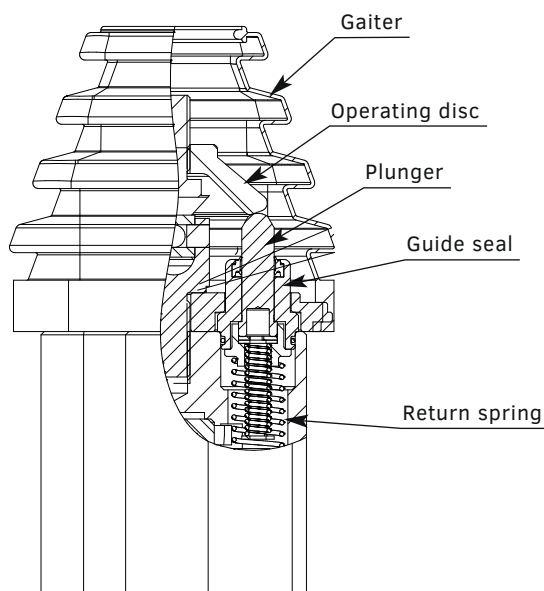
INTRODUCTION

HPV1 Pilot Control Valves are part of the extensive range of Hydreco Hydraulics products.

This product has a new design meant to provide a comfortable and fine control for mobile and industrial machines. The pilot valve, with its single lever dual axis control, is supported by an extensive range of characteristics, metering curves and handle option which make it suitable for a wide range of both mobile and industrial applications.

Our engineers can offer special support to optimise this product to suit your application.

PARTS



BENEFITS

- Compact and lightweight body
- Low effort control and smooth movements
- Rugged construction for long operating life
- Spare parts available upon request
- Suitable for armrest of control mounting
- Compatible with a wide range of products
- Low hysteresis, high accuracy, pressure control curves
- Wide range of electrical options in multi-functional ergonomic handles

APPLICATIONS

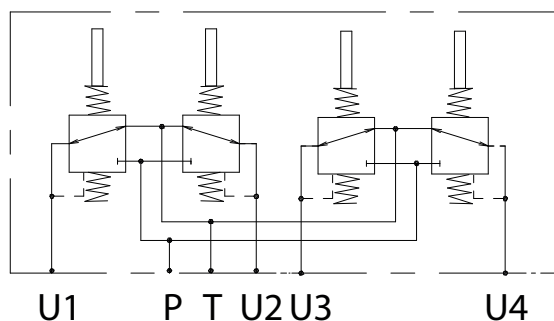
- Excavators and mini-excavators
- Cranes
- Forestry machines
- Access platforms
- Container handlers
- Tracked machines
- Skid steer loaders
- Forklift trucks

TECHNICAL FEATURES

MAXIMUM OPERATING PRESSURE	inlet (P port)	50 bar	725 psi
	back (T port)	3 bar	43.5 psi
CONTROL FLOW	range	5 to 15 l/min	1.3 to 4 gpm
MAXIMUM HYSTERESIS		±0.5 bar	± 7.3 psi
SERVICE PORTS		1/4" BSP	9/16" UNF

RANGE TEMPERATURES	ambient	-20 to +54 °C	-4 to +130 °F
	fluid	-20 to +82 °C	-4 to +180 °F
FLUID TYPE	mineral oils ISO, HM and HV		
FLUID CONTAMINATION	ISO 4406:1999 class 20/18/15		

HYDRAULIC SYMBOL (TYPICAL)



HPV1- [] - [] - [] - **S-** [] [] [] - []

MODEL _____
 HPV Hydraulic Pilot Valve

SERIES _____

MODEL TYPE _____
C01 Return spring
C04 Frictioned on y axis, return spring on x axis

HANDLE STYLE _____
 (refer to HANDLE catalogue for complete handle options definition)

- W** Without handle
- SA** Straight handle without electric switch
- SD** Straight handle with electric switch
- SX** Straight handle with electric switch to close
- SS** Straight handle with electric switch to close and safety button
- SY** Straight handle with electric switch dual rocker type
- SZ2** Straight handle with 2 positions latched rocker
- SZ3** Straight handle with 3 positions latched rocker
- E** MFE handle series
- M** MFE2 handle series
- EX** EXM handle (multifunctional) series

Only for handle type E, M or EX:
 5-digit handle code defined by Hydreco

PORTS
 Omit for 1/4" BSP
S 9/16"-18 UNF SAE6

RETURN SPRING
0 Standard: 1.2 to 2.5 daN
1 Medium: 1.7 to 3.2 daN

SQUARE GAITER

METERING CURVES
 See 'curve ID' in tables at pages 4 and 5.

S*

E

M

EX



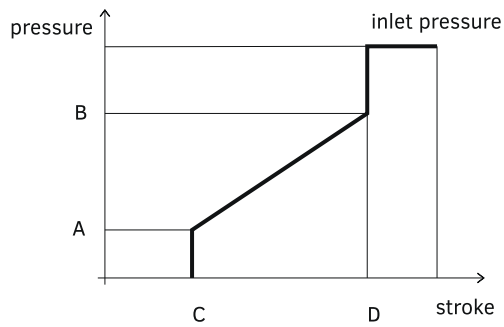
CODE EXAMPLE:

HPV1-C01-E015-S-0-11163

Hydraulic pilot valve series 2, return spring configuration, MFE handle, metering curve with step 015, square gaiter, standard return spring, MFE handle n. 11163:

METERING CURVES - WITH STEP

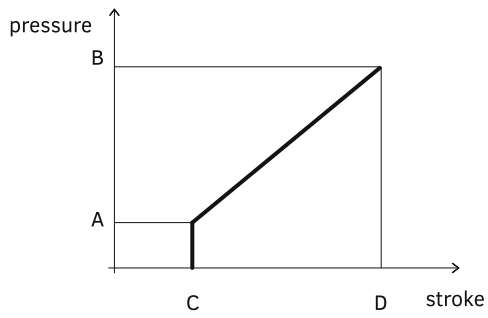
Tolerance on pressure settings ± 0.5 bar (7.25 psi). Other metering curves are available upon request.



PRESSURE (bar psi)		STROKE (mm in)		CURVE ID
A	B	C	D	
1.0 14.5	12.0 174.0	1.0 0.04	8.5 0.33	034
2.0 29.0	11.5 166.8	1.0 0.04	8.5 0.33	012
2.0 29.0	20.5 297.3	1.0 0.04	8.5 0.33	077
2.0 29.0	14.2 206.0	1.0 0.04	8.5 0.33	163
3.2 46.4	17.2 249.5	1.0 0.04	8.5 0.33	062
3.4 49.3	29.4 426.4	1.0 0.04	8.5 0.33	030
4.3 62.4	15.2 220.5	1.0 0.04	8.5 0.33	049
4.9 71.1	18.9 274.1	1.0 0.04	8.5 0.33	018
4.9 71.1	17.5 253.8	2.0 0.08	8.5 0.33	202
5.0 72.5	14.5 210.3	1.0 0.04	8.5 0.33	019
5.0 72.5	15.9 230.6	1.0 0.04	8.5 0.33	026
5.8 84.1	22.0 319.1	1.8 0.07	8.5 0.33	015
7.2 104.4	16.7 242.2	1.0 0.04	8.5 0.33	199
7.6 110.2	21.7 314.7	1.0 0.04	8.5 0.33	198
8.0 110.0	23.0 333.6	1.0 0.04	8.5 0.33	173

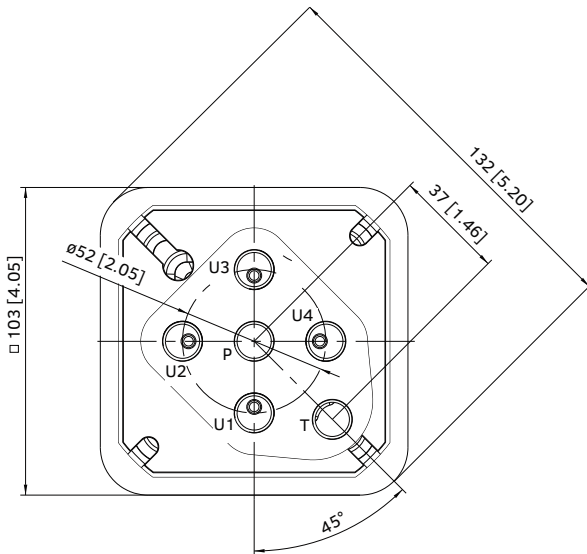
METERING CURVES - WITHOUT STEP

Tolerance on pressure settings ± 0.5 bar (7.25 psi). Other metering curves are available upon request.

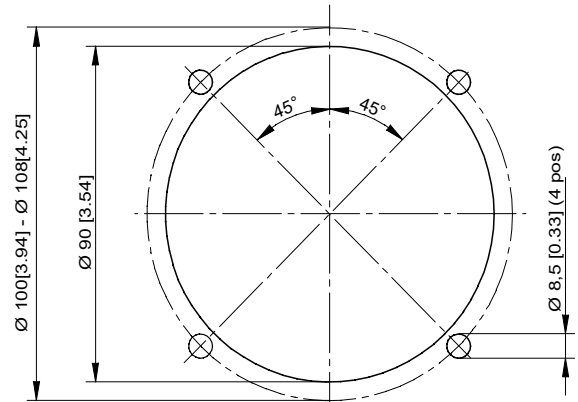


PRESSURE (bar psi)		STROKE (mm in)		CURVE ID
A	B	C	D	
3.8 55.1	23.7 343.7	1.0 0.04	9.0 0.35	074
4.0 58.0	8.0 116.0	1.0 0.04	9.0 0.35	054
4.4 63.8	21.6 313.3	1.0 0.04	9.0 0.35	126
5.0 72.5	18.0 261.1	2.0 0.08	9.0 0.35	079
5.0 72.5	19.87 288.2	1.0 0.04	9.0 0.35	094
5.7 82.7	18.7 271.2	1.0 0.04	9.0 0.35	055
8.3 120.4	22.5 326.3	1.0 0.04	9.0 0.35	059

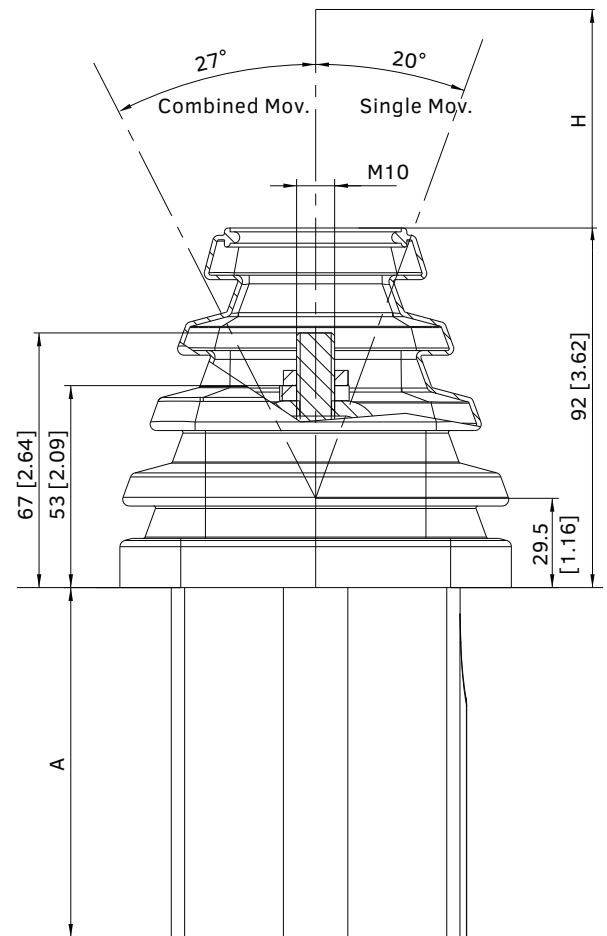
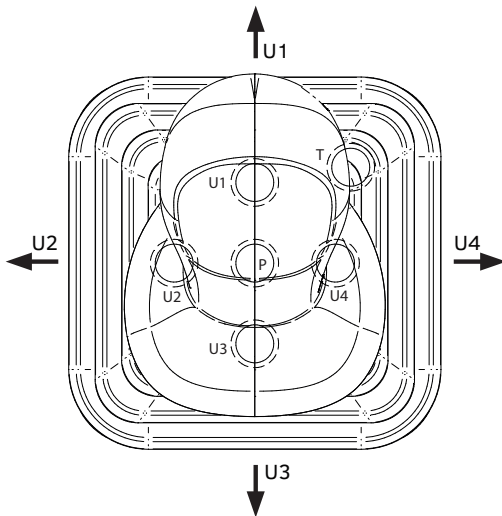
INSTALLATION AND DIMENSIONS mm[in]



FOOTPRINT



ORIENTATION OF THE PILOT CONTROL UNITS



Valve configuration	approx. weight (kg lb)	H (mm in)
only body + gaiter	1.4 3.09	-
with S* handles	1.7 3.75	131 5.16
with MFE handles	1.7 3.75	154 6.06
with MFE2 handles	1.8 3.97	153 6.02
with EXM handles	1.6 3.53	137 5.39

A= 75mm[2.95] for 1/4" BSP PORTS
A= 82mm[3.23] for 9/16"-18 SAE6 PORTS

Supported by a worldwide network



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AMERICAS

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APAC

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