

# HPVP SERIES

HYDRAULIC PILOT  
CONTROL



**INTRODUCTION**

HPVP Pilot Control Valves are part of the extensive range of Hydreco Hydraulics product.

The range of foot pedal controls supported by a huge variety of characteristics, makes it suitable for a wide range of applications.

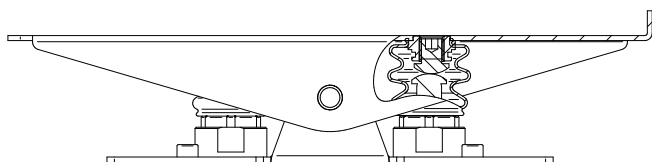
Our engineers can offer special support to optimise this product to suit your application.

**BENEFITS**

- Compact and lightweight
- Ports ideally positioned for easy installation
- Simple to mount
- Compatible with a wide range of product
- Operator is protected from high temperature components
- Low hysteresis, high accuracy, pressure control curves
- Range of operator pedal efforts available
- Rubber boot protection to prevent contamination and to operate in the toughest environmental conditions
- Plunger manufactured from non-corrosive steel
- End of stroke limited externally to prevent any damage to internal components
- Double lip seal option available for increased product life
- Optimised angular movement of foot pedal

**PARTS**

HPVP01S\*



**APPLICATIONS**

- Forklift trucks
- Drilling rigs
- Forestry machines
- Cranes
- Material handling

\* Please view other model type parts at page 4.

**TECHNICAL FEATURES**

<b>MAXIMUM OPERATING PRESSURE</b>	inlet (P port)	50 bar	725 psi
	back (T port)	3 bar	43.5 psi
<b>CONTROL FLOW</b>	range	5 to 20 l/min	1.3 to 5.3 gpm
<b>MAXIMUM HYSTERESIS</b>		±0.5 bar	± 7.3 psi
<b>SERVICE PORTS</b>		1/4" BSP	7/16" UNF

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

**HYDRAULIC SYMBOL (TYPICAL)**

Please view Hydraulic Symbol specs at page 4.

**HPVP-** [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

**MODEL** \_\_\_\_\_  
 HPV Hydraulic Pilot Valve  
**SERIES** \_\_\_\_\_  
**MODEL TYPE** \_\_\_\_\_  
**01** Rocker pedal with two pilot spools  
**02** Twin pedal with two pilot spools  
**03** Single pedal with one pilot spool  
**04** Single pedal with two solenoid valves (12 or 24 VDC)\*  
 \*04 model requires voltage and coil additional code.  
 (see the example code below)  
**05** Single pedal with two solenoid valves (12 or 24 VDC)\*  
**06** Single pedal with two solenoid valves (12 or 24 VDC)\*  
**07** Single pedal with two solenoid valves (12 or 24 VDC)\*  
**PEDAL STYLE** (Only for 01 Model Type)  
**S** Flat pedal  
**V** V-shaped handle  
**W** Without pedal

**COIL CONNECTORS** } \* Only for Model Type 04  
**COILS VOLTAGE**  
**PORTS**  
 - Omit for 1/4" BSP  
**S** 9/16" - 18 UNF SAE6 <sup>1</sup>  
<sup>1</sup> Available on request  
**RETURN SPRING**  
**0** Standard : 3.0 to 4.5 daN  
**1** Heavy : 7.5 to 13.8 daN  
**CONTROL PLUNGER**  
**SG** Standard nbr seal  
**SK** Double lip seal (not available on model 01)  
**METERING CURVES**  
 See 'curve ID' in tables at pages 5 and 6.

COILS VOLTAGE	
<b>D12</b>	12 V DC solenoid
<b>D24</b>	14 V DC solenoid

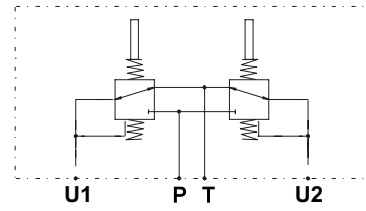
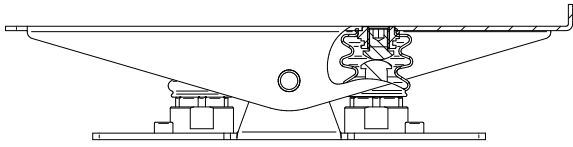
COIL CONNECTORS	
<b>K1</b>	DIN 43650
<b>K7</b>	DT04-2P 'deutsch'

**CODE EXAMPLE:**

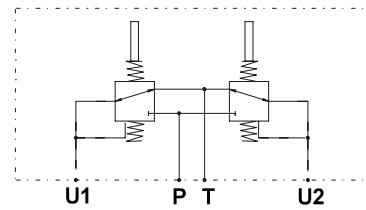
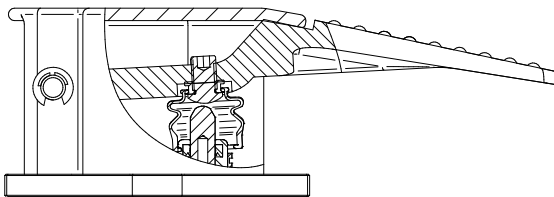
**HPVP-01-S-015-SG-1**  
 Hydraulic pilot valve foot pedal, model style 01, flat pedal, metering curve n. 015, standard plunger, standard return spring

**HPVP-04-S-015-SG-1-D12-K1**  
 Hydraulic pilot valve foot pedal, model style 01, flat pedal, metering curve n. 015, standard plunger, standard return spring, voltage 12 V DC solenoid, DIN 43650

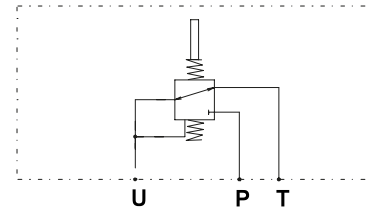
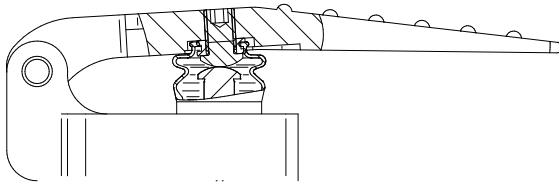
HYDRAULIC SYMBOL (01 MODEL TYPE)



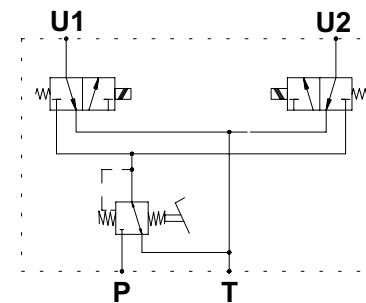
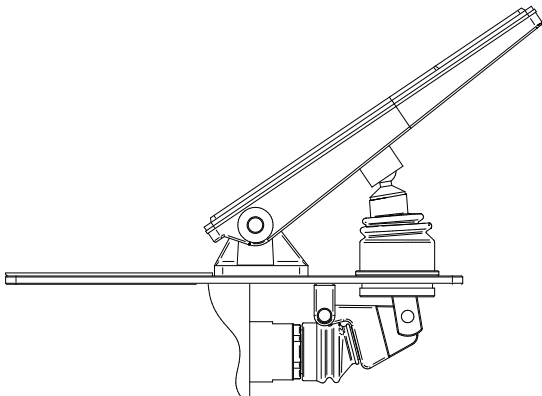
HYDRAULIC SYMBOL (02 MODEL TYPE)



HYDRAULIC SYMBOL (03 MODEL TYPE)

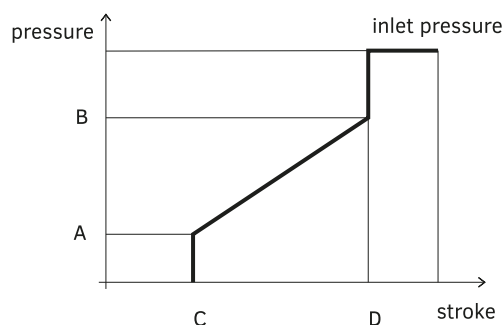


HYDRAULIC SYMBOL (04 MODEL TYPE)



**METERING CURVES - WITH STEP**

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

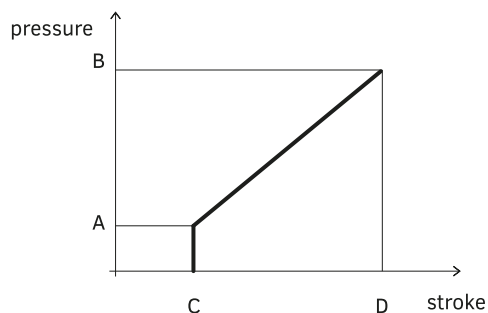


PRESSURE (bar   psi)		STROKE (mm   in)		CURVE ID
A	B	C	D	
0.0   0.0	13.0   188.6	0.5   0.02	8.5   0.33	027
0.5   7.3	4.0   58.0	1.8   0.07	8.5   0.33	009
0.5   7.3	6.5   94.3	2.0   0.08	8.5   0.33	010
0.5   7.3	11.4   165.4	1.8   0.07	8.5   0.33	047
0.5   7.3	18.4   267.0	1.0   0.04	8.5   0.33	076
1.0   14.5	8.0   116.1	1.0   0.04	8.5   0.33	011
1.0   14.5	12.0   174.1	1.0   0.04	8.5   0.33	034
1.5   21.8	8.5   123.3	1.0   0.04	8.5   0.33	069
2.0   29.0	11.5   166.9	1.0   0.04	8.5   0.33	012
2.0   29.0	11.5   166.9	2.0   0.08	8.5   0.33	025
2.0   29.0	8.0   116.1	0.5   0.02	8.5   0.33	042
2.0   29.0	13.0   188.6	1.0   0.04	8.5   0.33	045
2.0   29.0	20.5   297.5	1.0   0.04	8.5   0.33	077
2.0   29.0	27.5   399.0	1.0   0.04	8.5   0.33	080
2.0   29.0	14.2   206.0	1.0   0.04	8.5   0.33	163
2.0   29.0	25.0   362.8	1.0   0.04	8.5   0.33	180
2.4   34.8	16.4   238.0	1.0   0.04	8.5   0.33	078
2.8   40.6	14.91   216.3	1.0   0.04	8.5   0.33	123
2.8   40.6	4.75   69.0	1.0   0.04	8.5   0.33	129
3.0   43.5	9.0   130.6	2.0   0.08	8.5   0.33	021
3.0   43.5	10.0   145.1	1.0   0.04	8.5   0.33	051
3.0   43.5	21.74   315.4	1.0   0.04	8.5   0.33	101
3.0   43.5	8.0   116.1	1.0   0.04	8.5   0.33	125
3.2   46.4	15.4   223.4	1.0   0.04	8.5   0.33	041
3.2   46.4	11.7   169.8	1.8   0.07	8.5   0.33	048
3.2   46.4	17.2   249.6	1.0   0.04	8.5   0.33	062
3.4   49.3	29.4   426.6	1.0   0.04	8.5   0.33	030
3.5   50.8	13.0   188.6	1.0   0.04	8.5   0.33	101
3.7   53.7	29.23   424.1	1.0   0.04	8.5   0.33	104
4.0   58.0	21.5   312.0	1.0   0.04	8.5   0.33	090
4.3   62.4	15.2   220.6	1.0   0.04	8.5   0.33	049
4.3   62.4	13.8   200.2	1.0   0.04	8.5   0.33	122
4.44   64.4	17.0   246.7	1.8   0.07	8.5   0.33	107
4.44   64.4	30.4   441.1	1.0   0.04	8.5   0.33	138
4.5   65.3	18.0   261.2	1.0   0.04	8.5   0.33	095
4.5   65.3	27.0   391.2	1.0   0.04	8.5   0.33	108
4.8   69.6	17.4   252.5	2.0   0.08	8.5   0.33	200
4.9   71.1	18.9   274.2	1.0   0.04	8.5   0.33	018
4.9   71.1	17.5   254.0	2.0   0.08	8.5   0.33	202
5.0   72.6	14.5   210.4	1.0   0.04	8.5   0.33	019
5.0   72.6	12.0   174.1	1.0   0.04	8.5   0.33	023
5.0   72.6	15.9   230.7	1.0   0.04	8.5   0.33	026
5.0   72.6	24.5   355.5	1.8   0.07	8.5   0.33	109
5.0   72.6	23.0   333.7	1.0   0.04	8.5   0.33	116
5.0   72.6	19.3   280.0	1.0   0.04	8.5   0.33	201

PRESSURE (bar   psi)		STROKE (mm   in)		CURVE ID
A	B	C	D	
5.1   74.0	19.1   277.1	1.2   0.05	8.5   0.33	112
5.5   79.8	24.2   351.1	1.0   0.04	8.5   0.33	028
5.5   79.8	27.0   391.8	1.0   0.04	8.5   0.33	139
5.7   82.7	17.8   258.3	1.0   0.04	8.5   0.33	137
5.8   84.2	22.0   319.2	1.8   0.07	8.5   0.33	015
5.8   84.2	22.4   325.0	1.0   0.04	8.5   0.33	082
5.8   84.2	22.0   319.2	1.0   0.04	8.5   0.33	088
5.8   84.2	19.8   287.3	1.0   0.04	8.5   0.33	106
5.8   84.2	23.9   346.8	1.0   0.04	8.5   0.33	113
5.8   84.2	26.0   377.3	1.0   0.04	8.5   0.33	115
5.9   88.6	12.9   187.2	1.0   0.04	8.5   0.33	065
6.0   85.6	28.7   416.4	1.0   0.04	8.5   0.33	150
6.1   88.6	15.1   219.1	1.0   0.04	8.5   0.33	209
6.5   88.5	14.0   203.1	1.0   0.04	8.5   0.33	020
6.5   88.5	28.0   406.3	1.0   0.04	8.5   0.33	063
6.6   95.8	20.7   300.4	1.0   0.04	8.5   0.33	043
6.6   95.8	22.7   329.4	1.5   0.06	8.5   0.33	181
6.7   97.2	16.2   235.1	1.0   0.04	8.5   0.33	127
7.0   101.6	26.7   387.4	0.5   0.02	8.5   0.33	135
7.2   104.5	15.3   222.0	1.0   0.04	8.5   0.33	100
7.2   104.5	16.7   242.3	1.0   0.04	8.5   0.33	199
7.57   109.8	24.6   357.0	0.5   0.02	8.5   0.33	136
7.6   110.3	21.7   314.9	1.0   0.04	8.5   0.33	198
7.6   110.3	21.5   312.0	1.0   0.04	8.5   0.33	207
8.0   116.1	24.2   351.1	1.0   0.04	8.5   0.33	024
8.0   116.1	20.7   300.4	1.8   0.07	8.5   0.33	044
8.0   116.1	23.0   333.7	1.0   0.04	8.5   0.33	173
8.2   119.0	24.4   354.0	1.8   0.07	8.5   0.33	013
8.2   119.0	24.5   355.5	1.0   0.04	8.5   0.33	014
8.4   121.9	50.0   725.5	1.0   0.04	8.5   0.33	073
8.4   121.9	21.1   306.2	3.25   0.13	8.5   0.33	098
8.4   121.9	27.9   404.8	1.8   0.07	8.5   0.33	120
8.5   123.3	16.2   235.1	1.0   0.04	8.5   0.33	175
9.0   130.6	15.5   224.9	2.0   0.08	8.5   0.33	084
9.8   142.2	26.0   377.3	1.8   0.07	8.5   0.33	032
14.0   203.1	29.0   420.8	1.0   0.04	8.5   0.33	031

**METERING CURVES - WITHOUT STEP**

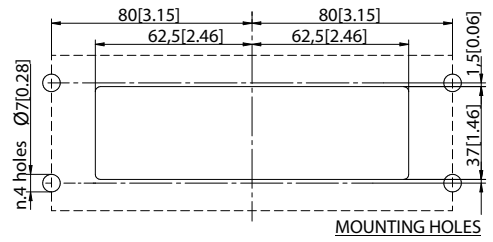
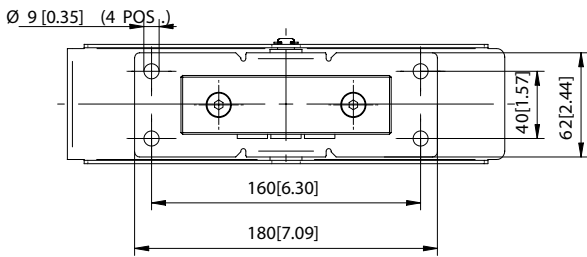
Tolerance on pressure settings  $\pm 0.5$  bar (7.25 psi). Other metering curves are available upon request.



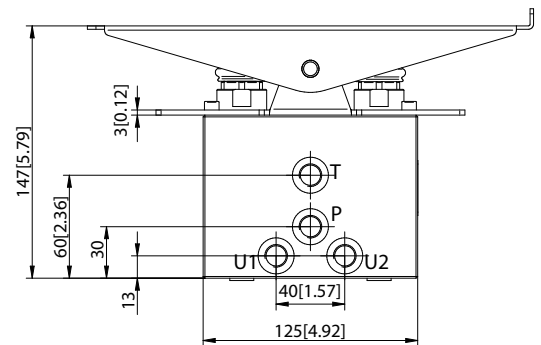
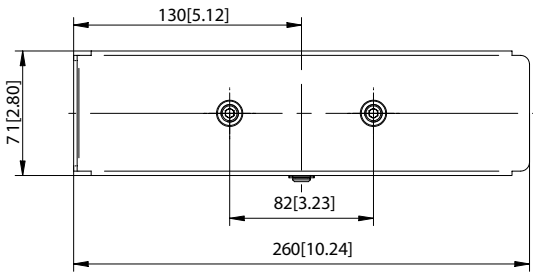
PRESSURE (bar   psi)		STROKE (mm   in)		CURVE ID
A	B	C	D	
0.0   0.0	64.0   928.6	2.0   0.08	9.0   0.35	022
0.0   0.0	115.0   1668.7	2.0   0.08	9.0   0.35	033
0.0   0.0	38.0   551.4	1.0   0.04	9.0   0.35	061
0.0   0.0	130.0   1886.3	1.0   0.04	9.0   0.35	143
0.0   0.0	27.3   396.1	1.0   0.04	9.0   0.35	205
0.5   7.3	12.2   177.0	1.8   0.07	9.0   0.35	087
0.7   10.2	30.0   435.3	1.0   0.04	9.0   0.35	071
1.0   14.5	15.5   224.9	1.0   0.04	9.0   0.35	178
1.4   20.3	11.5   166.9	1.0   0.04	9.0   0.35	072
1.4   20.3	12.2   177.0	1.0   0.04	9.0   0.35	155
1.5   21.8	9.0   130.6	1.0   0.04	9.0   0.35	086
1.5   21.8	39.5   573.1	1.0   0.04	9.0   0.35	093
2.0   29.0	8.0   116.1	1.0   0.04	9.0   0.35	004
2.0   29.0	15.0   217.7	1.0   0.04	9.0   0.35	060
2.0   29.0	52.5   761.8	1.0   0.04	9.0   0.35	092
2.8   40.6	5.9   85.6	1.0   0.04	9.0   0.35	157
3.0   43.5	23.0   333.7	1.0   0.04	9.0   0.35	058
3.0   43.5	14.0   203.1	1.0   0.04	9.0   0.35	162
3.0   43.5	10.0   145.1	1.0   0.04	9.0   0.35	165
3.2   46.4	18.1   262.6	1.0   0.04	9.0   0.35	053
3.2   46.4	20.0   290.2	1.0   0.04	9.0   0.35	096
3.2   46.4	16.2   235.1	1.0   0.04	9.0   0.35	153
3.5   50.8	25.7   372.9	1.0   0.04	9.0   0.35	171
3.7   53.7	31.0   449.8	1.0   0.04	9.0   0.35	168
3.8   55.1	23.7   343.9	1.0   0.04	9.0   0.35	074
4.0   58.0	10.0   145.1	1.0   0.04	9.0   0.35	005
4.0   58.0	8.0   116.1	1.0   0.04	9.0   0.35	054
4.0   58.0	16.0   132.2	1.0   0.04	9.0   0.35	057
4.0   58.0	6.0   87.1	1.0   0.04	9.0   0.35	170
4.3   62.4	10.0   145.1	1.0   0.04	9.0   0.35	158
4.4   63.8	21.6   313.4	1.0   0.04	9.0   0.35	126
4.7   68.2	27.6   400.5	1.0   0.04	9.0   0.35	132
4.9   71.1	19.8   287.3	1.0   0.04	9.0   0.35	204
5.0   72.6	10.5   152.4	1.0   0.04	9.0   0.35	066
5.0   72.6	18.0   261.2	1.0   0.04	9.0   0.35	079
5.0   72.6	33.0   478.8	1.0   0.04	9.0   0.35	085
5.0   72.6	20.0   290.2	1.0   0.04	9.0   0.35	089
5.0   72.6	19.9   288.7	1.0   0.04	9.0   0.35	094
5.0   72.6	45.0   653.0	1.0   0.04	9.0   0.35	169
5.0   72.6	12.0   174.1	1.0   0.04	9.0   0.35	196
5.0   72.6	26.0   377.3	1.0   0.04	9.0   0.35	203
5.5   79.8	26.7   387.4	1.1   0.04	9.0   0.35	067
5.5   79.8	25.5   370.0	1.1   0.04	9.0   0.35	075
5.5   79.8	50.0   725.5	2.0   0.08	9.0   0.35	145
5.6   79.8	21.4   310.5	1.0   0.04	9.0   0.35	208

PRESSURE (bar   psi)		STROKE (mm   in)		CURVE ID
A	B	C	D	
5.7   82.7	64.0   928.6	1.0   0.04	9.0   0.35	022
5.8   84.2	115.0   1668.7	1.6   0.06	9.0   0.35	033
5.8   84.2	38.0   551.4	1.0   0.04	9.0   0.35	061
5.8   84.2	130.0   1886.3	1.8   0.07	9.0   0.35	143
5.8   84.2	27.3   396.1	1.0   0.04	9.0   0.35	205
6.0   87.1	12.2   177.0	2.0   0.08	9.0   0.35	087
6.0   87.1	30.0   435.3	1.0   0.04	9.0   0.35	071
6.0   87.1	15.5   224.9	1.0   0.04	9.0   0.35	178
6.0   87.1	11.5   166.9	1.0   0.04	9.0   0.35	072
6.0   87.1	12.2   177.0	1.0   0.04	9.0   0.35	155
6.0   87.1	9.0   130.6	1.0   0.04	9.0   0.35	086
6.4   92.9	39.5   573.1	1.0   0.04	9.0   0.35	093
6.5   94.3	8.0   116.1	2.0   0.08	9.0   0.35	004
7.0   101.6	15.0   217.7	1.0   0.04	9.0   0.35	060
7.0   101.6	52.5   761.8	1.0   0.04	9.0   0.35	092
7.0   101.6	5.9   85.6	1.0   0.04	9.0   0.35	157
7.0   101.6	23.0   333.7	1.0   0.04	9.0   0.35	058
7.5   108.8	14.0   203.1	1.0   0.04	9.0   0.35	162
8.0   116.1	10.0   145.1	1.0   0.04	9.0   0.35	165
8.1   117.5	18.1   262.6	3.25   0.13	9.0   0.35	053
8.3   120.4	20.0   290.2	1.0   0.04	9.0   0.35	096
8.6   124.8	16.2   235.1	1.0   0.04	9.0   0.35	153
9.1   132.0	25.7   372.9	1.0   0.04	9.0   0.35	171
11.5   166.9	31.0   449.8	1.0   0.04	9.0   0.35	168

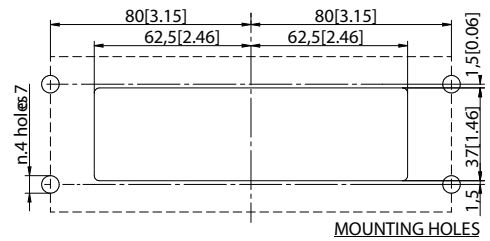
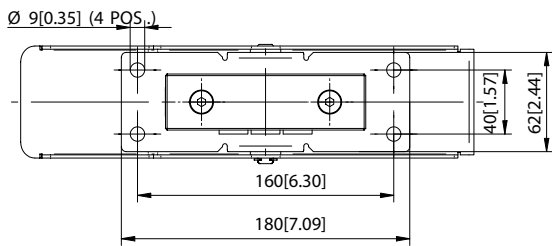
INSTALLATION AND DIMENSIONS mm[in] - HPVP01S - Flat Rocker Pedal



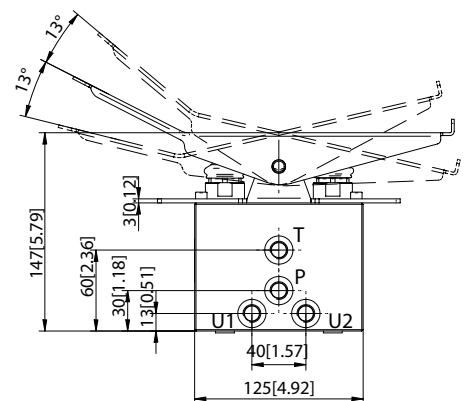
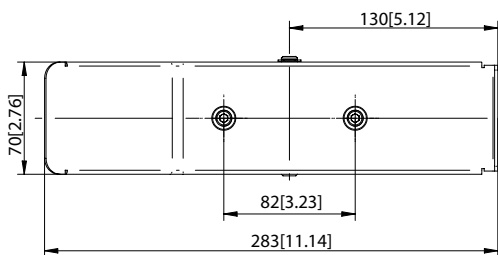
ORIENTATION OF THE PILOT CONTROL



INSTALLATION AND DIMENSIONS mm[in] - HPVP01V - V Shaped Rocker Pedal

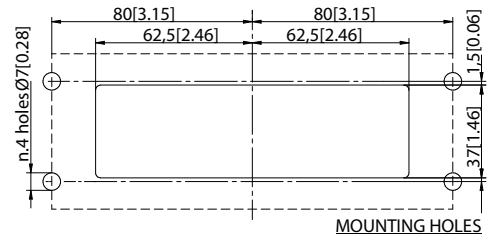
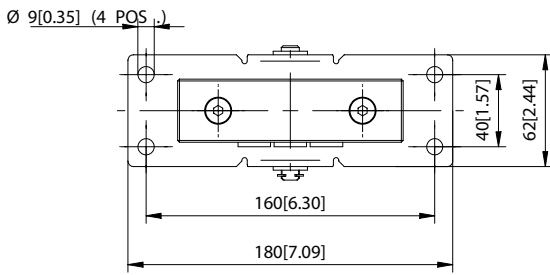


ORIENTATION OF THE PILOT CONTROL

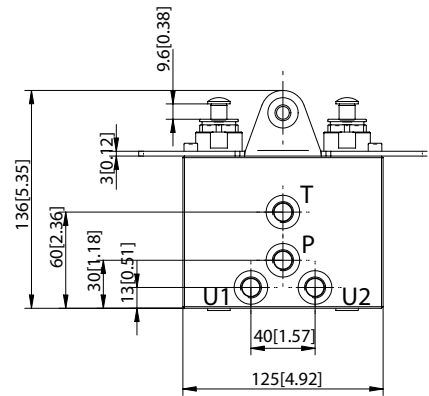
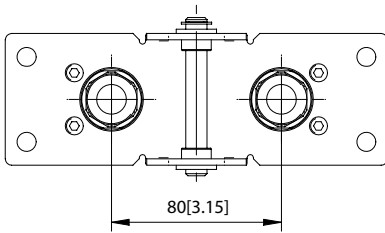


Pedal Model	approx. weight (kg   lb)
Model type 01	2.350   5.18

INSTALLATION AND DIMENSIONS mm[in] - HPVP01W - Without Pedal

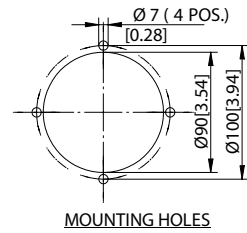
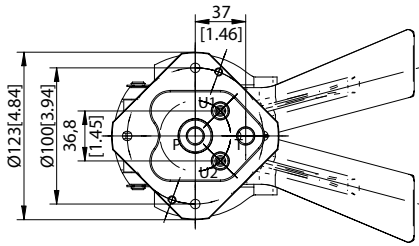


ORIENTATION OF THE PILOT CONTROL

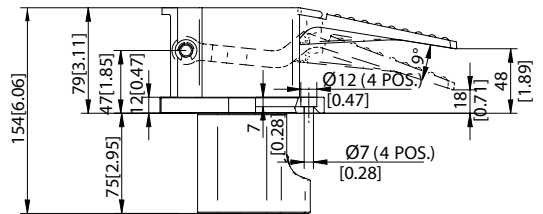
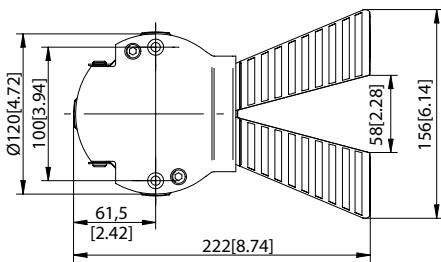




INSTALLATION AND DIMENSIONS mm[in] - HPVP02 - Twin Pedal

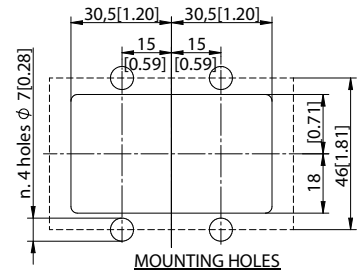
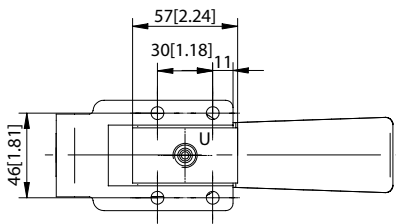


ORIENTATION OF THE PILOT CONTROL

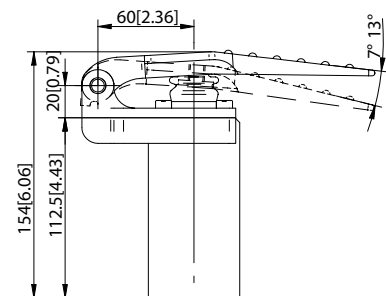
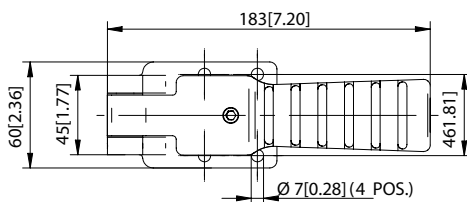


Pedal Model	approx. weight (kg   lb)
Model type 02	2.400   5.29

INSTALLATION AND DIMENSIONS mm[in] - HPVP03 - Single Pedal

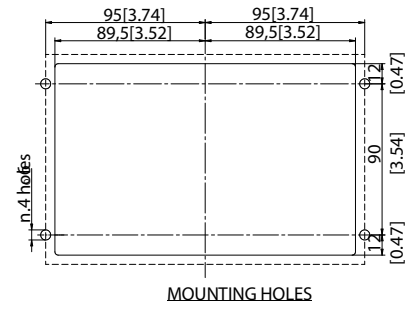
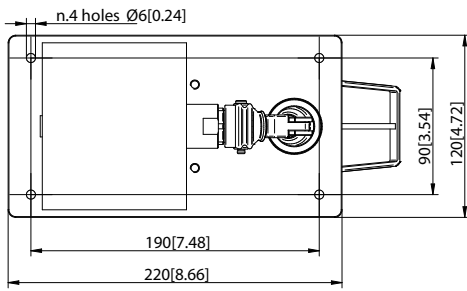


ORIENTATION OF THE PILOT CONTROL

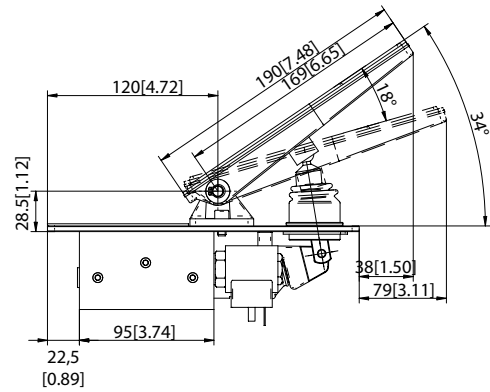
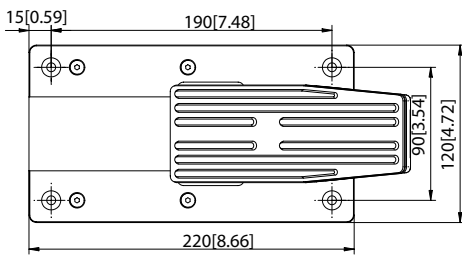


Pedal Model	approx. weight (kg   lb)
Model type 03	1.050   2.31

INSTALLATION AND DIMENSIONS mm[in] - HPVP04 - Single Pedal with 2 Solenoid Valves



ORIENTATION OF THE PILOT CONTROL



Pedal Model	approx. weight (kg   lb)
Model type 04	3.500   7.72

Supported by a worldwide network



## CONTACT INFORMATION

### EMEA

<b>GERMANY</b>	Hydreco Hydraulics GmbH, Straelen (NRW)	+49 283494303-41	info-de@hydreco.com
<b>ITALY</b>	Hydreco Hydraulics Italia Srl, Vignola (MO)	+39 059 7700411	sales-it@hydreco.com
<b>ITALY</b>	Hydreco Hydraulics Italia Srl, Parma (PR)	+39 0521 1830520	sales-it@hydreco.com
<b>ITALY</b>	Hydreco Srl, San Cesario S/P (MO)	+39 059 330091	cylinders@hydreco.com
<b>NORWAY</b>	Hydreco Hydraulics Norway AS, Nittedal	+47 22909410	post-no@hydreco.com
<b>UK</b>	Hydreco Hydraulics Ltd, Poole, Dorset	+44 (0) 1202 627500	info-uk@hydreco.com

### AMERICAS

<b>NORTH/LATIN</b>	Hydreco Inc/ Continental Hydraulics Inc, Shakopee (MN)	+1 952 895 6400	sales@conthyd.com
--------------------	--	-----------------	-------------------

### APAC

<b>AUSTRALIA</b>	Hydreco Hydraulics Pty Ltd, Seven Hills (NSW)	+61 2 9838 6800	sales-au@hydreco.com
<b>AUSTRALIA</b>	Hydreco Hydraulics Pty Ltd, Welshpool (WA)	+61 8 9377 2211	reception-wa@hydreco.com
<b>INDIA</b>	Hydreco Hydraulics India Private Ltd, Bangalore	+91 80 67656300	sales-in@hydreco.com

