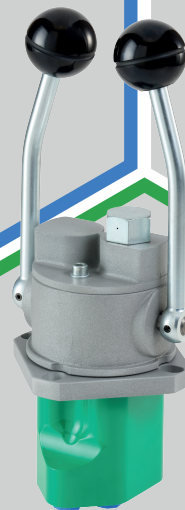


HPVB-E SERIES

HYDRAULIC PILOT
CONTROL



TECHNICAL CATALOGUE

INTRODUCTION

HPVB/E Pilot Control Valves are well established products within the Hydreco Hydraulics range.

This product, with its individual lever control, supported by an extensive range of characteristics, is suitable for a huge variety of applications.

Our engineers can offer specialistic 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

APPLICATIONS

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

* Please view other model type parts at page 4.

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 20 l/min	1.3 to 5.3 gpm
MAXIMUM HYSTERESIS		±0.5 bar	± 7.3 psi
SERVICE PORTS		1/4" BSP	7/16" 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)

Please view Hydraulic Symbol specs at page 4.

HPV - [] - [] - [] - **F** - [] - [] - [] - []

MODEL _____
 HPV Hydraulic Pilot Valve

MODEL TYPE _____
 Double lever Single lever

B01	E01
B02	E02
B03	E03
B04	E04
B05	E05
B06	E06

HANDLE STYLE _____

W Without handle
K Knob series
S Standard series

SHUTTLE BLOCK

- Omit if not required
- SP** Sealed version for marine equipment

SEALED VERSION

- Omit if not required
- SP** Sealed version for marine equipment

PORTS

- Omit for 1/4" BSP
- S** 9/16" - 18 UNF SAE6 ¹
- ¹ Available on request

RETURN SPRING

- 0** Standard : 1.4 to 2.8 daN
- 1** Light : 3.0 to 4.5 daN
- 2** Medium : 7.5 to 13.8 daN

CONTROL PLUNGER

- F** Standard Control Plunger

METERING CURVES

See 'curve ID' in tables at pages 5 and 6.

CODE EXAMPLE:

HPV-B01-KP-049-F-0

Hydraulic pilot valve, type double lever 01, handle spherical knob, metering curve n.049, standard plunger, return spring type 0

HYDRAULIC SYMBOL (01 MODEL TYPE)

HYDRAULIC SYMBOL (01 MODEL TYPE)

HYDRAULIC SYMBOL (02 MODEL TYPE)

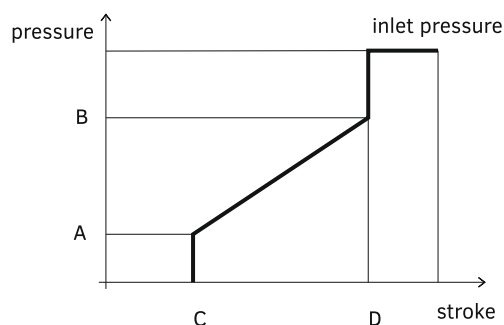
HYDRAULIC SYMBOL (02 MODEL TYPE)

HYDRAULIC SYMBOL (03 MODEL TYPE)

HYDRAULIC SYMBOL (04 MODEL TYPE)

METERING CURVES - WITH STEP

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

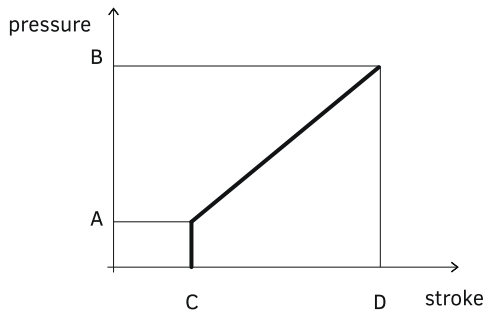


PRESSURE (bar psi)		STROKE (mm in)		CURVE ID
A	B	C	D	
0.0 0.0	13.0 188.6	0.5 0.02	8.5 0.33	027
0.5 7.3	4.0 58.0	1.8 0.07	8.5 0.33	009
0.5 7.3	6.5 94.3	2.0 0.08	8.5 0.33	010
0.5 7.3	11.4 165.4	1.8 0.07	8.5 0.33	047
0.5 7.3	18.4 267.0	1.0 0.04	8.5 0.33	076
1.0 14.5	8.0 116.1	1.0 0.04	8.5 0.33	011
1.0 14.5	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

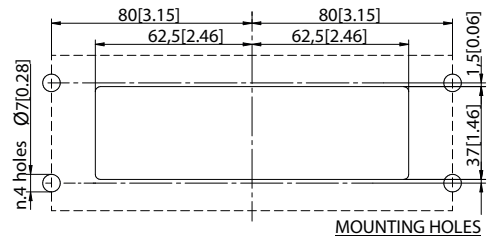
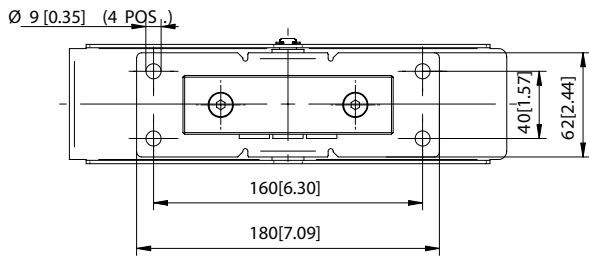
Tolerance on pressure settings ± 0.5 bar (7.25 psi). Other metering curves are available upon request.



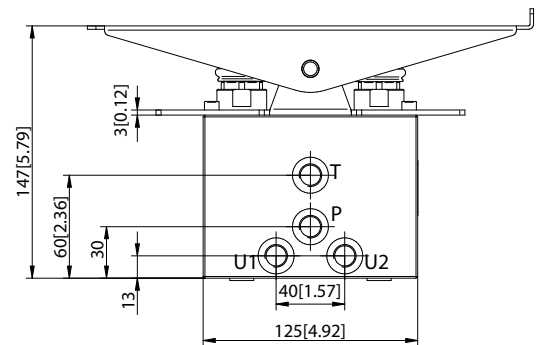
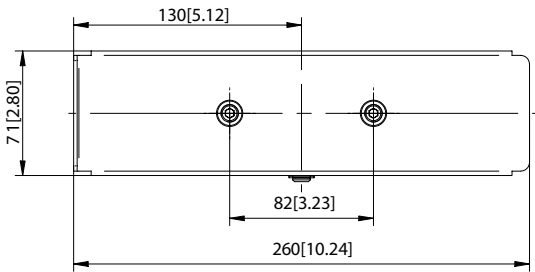
PRESSURE (bar psi)		STROKE (mm in)		CURVE ID
A	B	C	D	
0.0 0.0	64.0 928.6	2.0 0.08	9.0 0.35	022
0.0 0.0	115.0 1668.7	2.0 0.08	9.0 0.35	033
0.0 0.0	38.0 551.4	1.0 0.04	9.0 0.35	061
0.0 0.0	130.0 1886.3	1.0 0.04	9.0 0.35	143
0.0 0.0	27.3 396.1	1.0 0.04	9.0 0.35	205
0.5 7.3	12.2 177.0	1.8 0.07	9.0 0.35	087
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

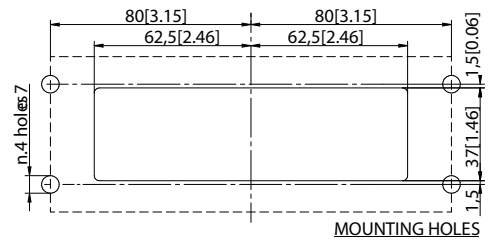
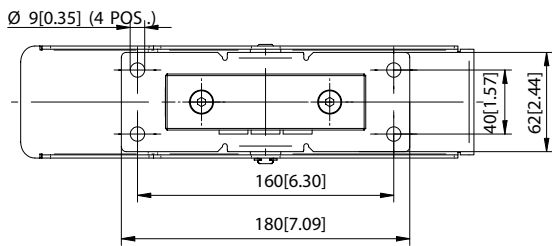
INSTALLATION AND DIMENSIONS mm[in] - HPVP01S - Flat Rocker Pedal



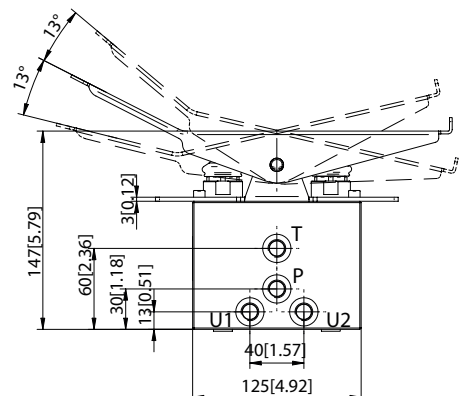
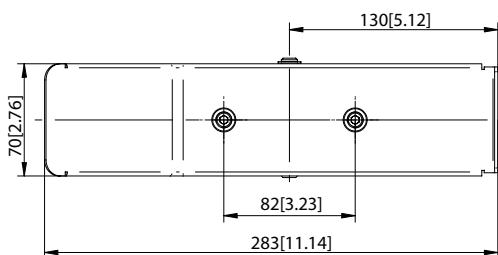
ORIENTATION OF THE PILOT CONTROL



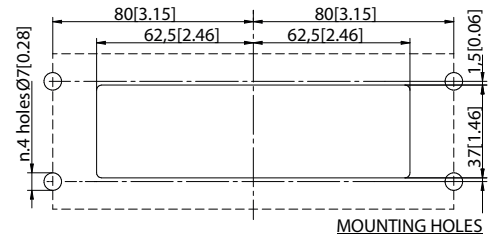
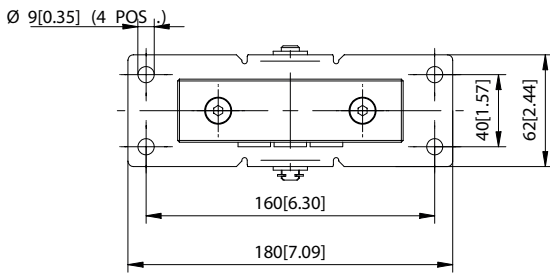
INSTALLATION AND DIMENSIONS mm[in] - HPVP01V - V Shaped Rocker Pedal



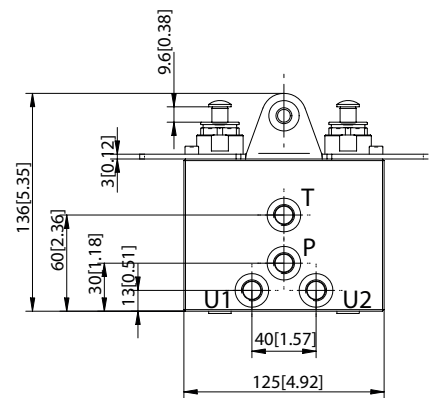
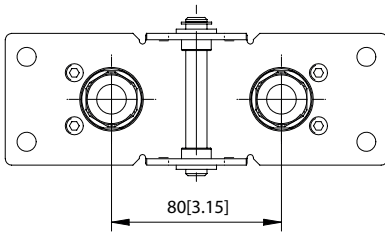
ORIENTATION OF THE PILOT CONTROL



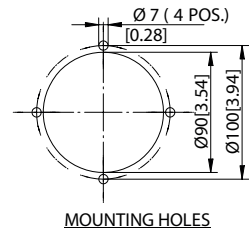
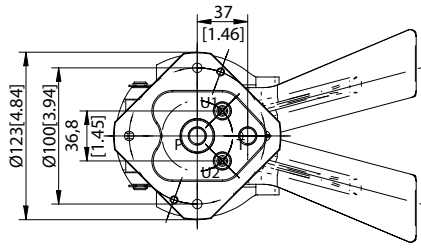
INSTALLATION AND DIMENSIONS mm[in] - HPVP01W - Without Pedal



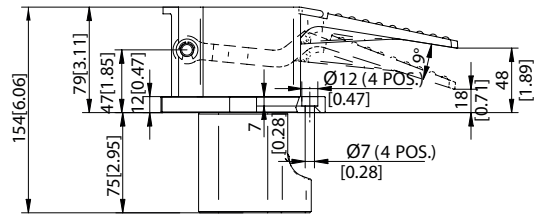
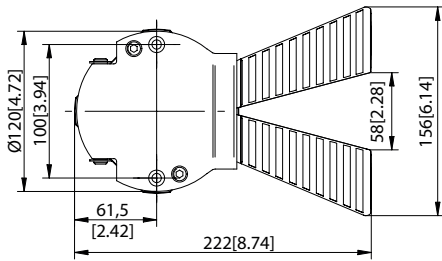
ORIENTATION OF THE PILOT CONTROL



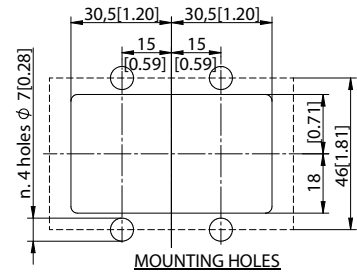
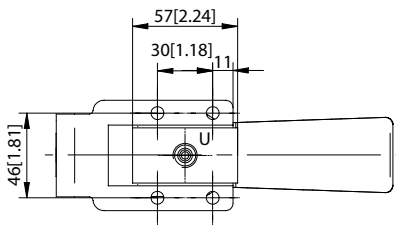
INSTALLATION AND DIMENSIONS mm[in] - HPVP02 - Twin Pedal



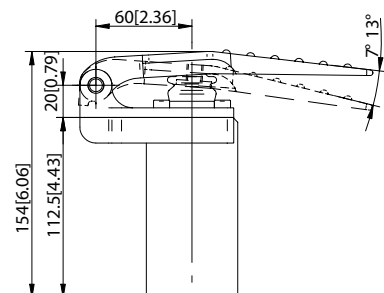
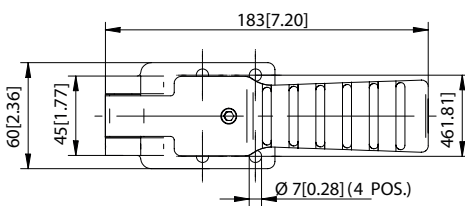
ORIENTATION OF THE PILOT CONTROL



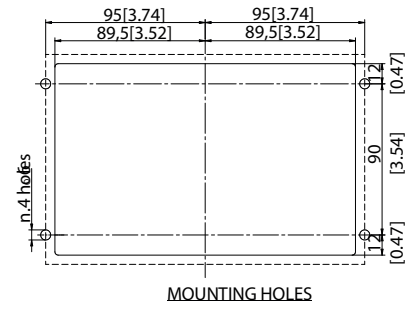
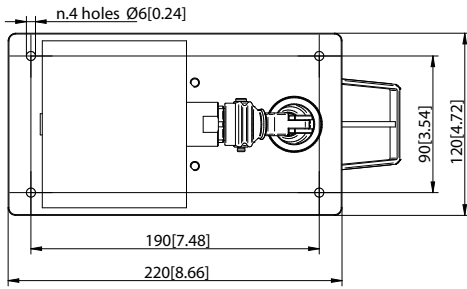
INSTALLATION AND DIMENSIONS mm[in] - HPVP03 - Single Pedal



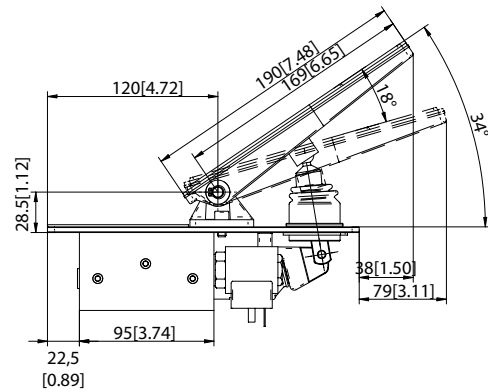
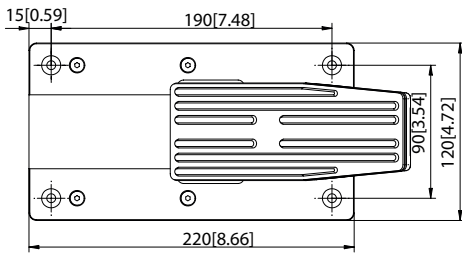
ORIENTATION OF THE PILOT CONTROL



INSTALLATION AND DIMENSIONS mm[in] - HPV-P04 - Single Pedal with 2 Solenoid Valves



ORIENTATION OF THE PILOT CONTROL



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