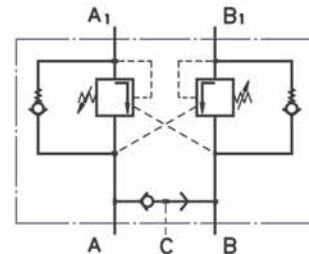
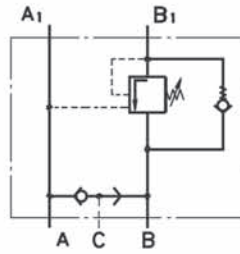
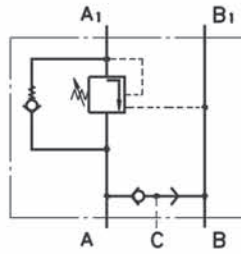


# VALVES FOR HYDRAULIC MOTORS

## OVERCENTER VALVES WITH BRAKE CONTROL



Single Overcenter Valves with Brake Control

Dual Overcenter Valves with Brake Control

## SPECIFICATION DATA

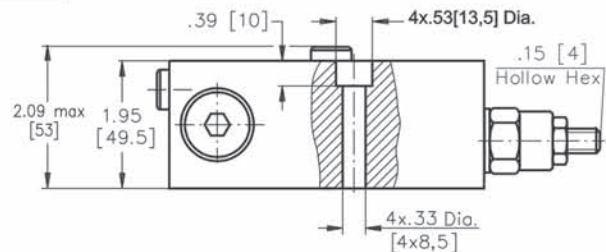
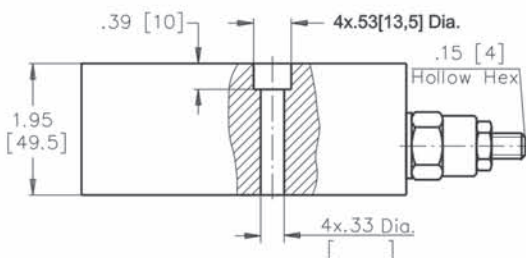
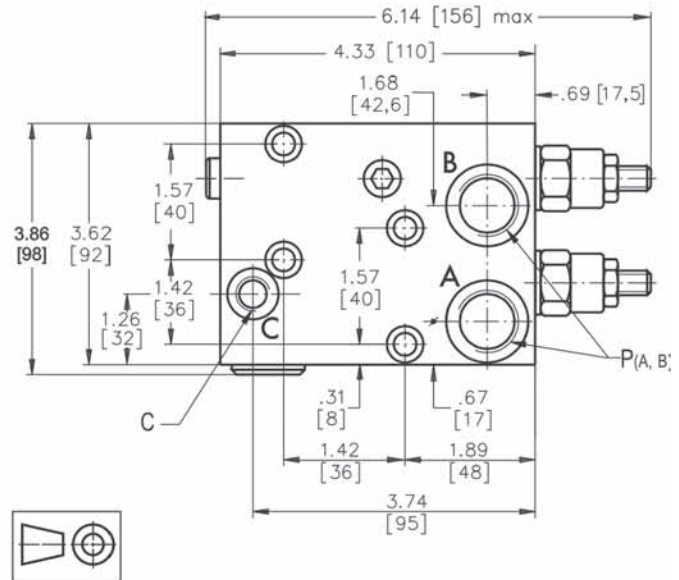
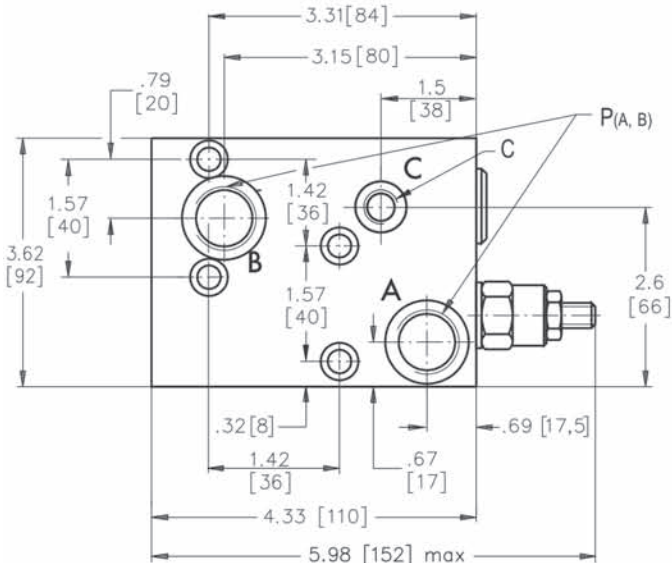
Parameters	Type					
	KPBR...E	KPBS...E	KPBR...D	KPBS...D	KPBT...E	KPBT...D
Flow Rate, GPM [lpm]	16[60,6]			26[100]		
Pressure Range*, PSI [bar]	1015÷3625 [70÷250]			1015÷3625 [70÷250]		
Pilot Ratio	4,25:1			4,25:1		
Weight , lb [kg]	7.276[3,30]	7.365[3,34]	7.387[3,35]	7.475[3,39]	11.905[5,40]	12.787[5,80]

\*Pressure Settings are at flow rate of 1.3 GPM [5 lpm] and viscosity 164 SUS [35 mm<sup>2</sup>/s] (122° F [50 °C]).

## VALVES FOR MLHP, MLHR HYDRAULIC MOTORS

### SINGLE VALVE KPBR-250/1/E...

### DUAL VALVE KPBR-250/1/D...

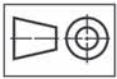
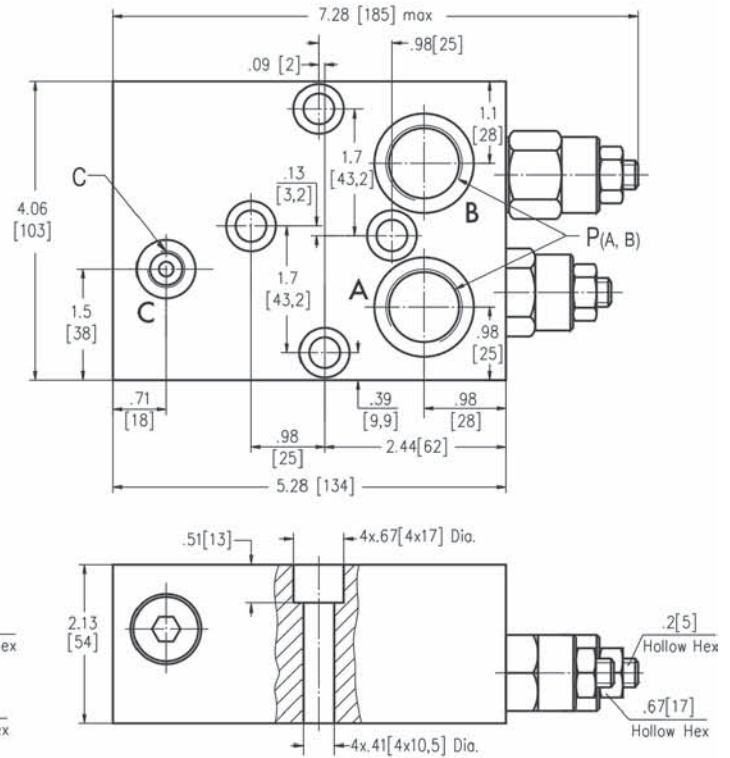
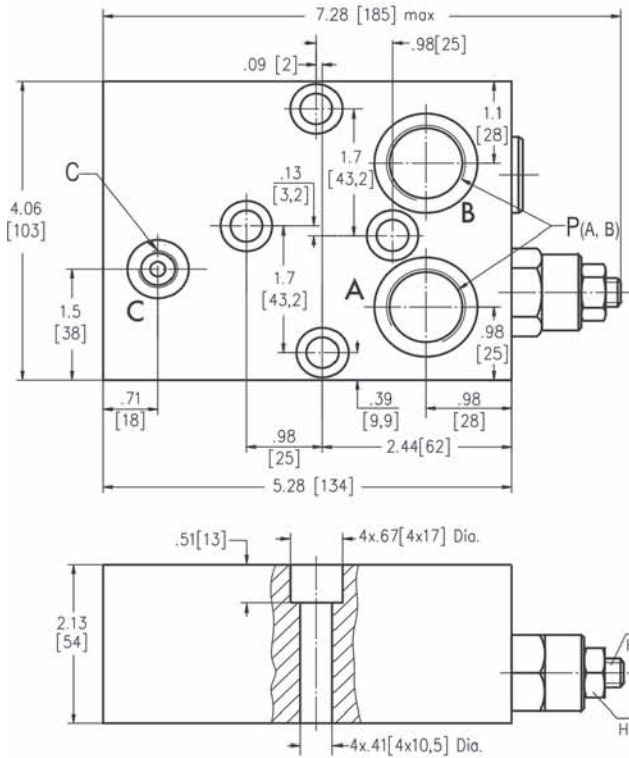


**OVERCENTER VALVES WITH BRAKE CONTROL (continued)**

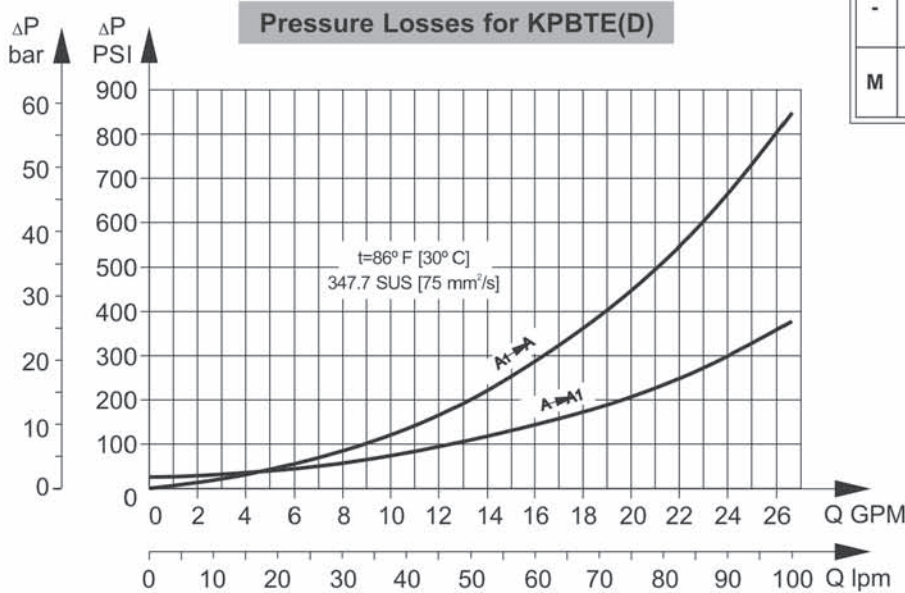
**VALVES FOR MLHT HYDRAULIC MOTORS**

**SINGLE VALVE KPBT-250/1/E...**

**DUAL VALVE KPBT-250/1/D...**



	Thread Ports - P <sub>(A,B)</sub>	Thread Ports - C
<b>A</b>	1 1/16-12 UN O-ring .67 [17] deep	7/16 - 20 UNF O-ring .50 [12,7] deep
<b>-</b>	G3/4 .67 [17] deep	G1/4 .55 [14] deep
<b>M</b>	M27x2 .67 [17] deep	M14x1,5 .55 [14] deep

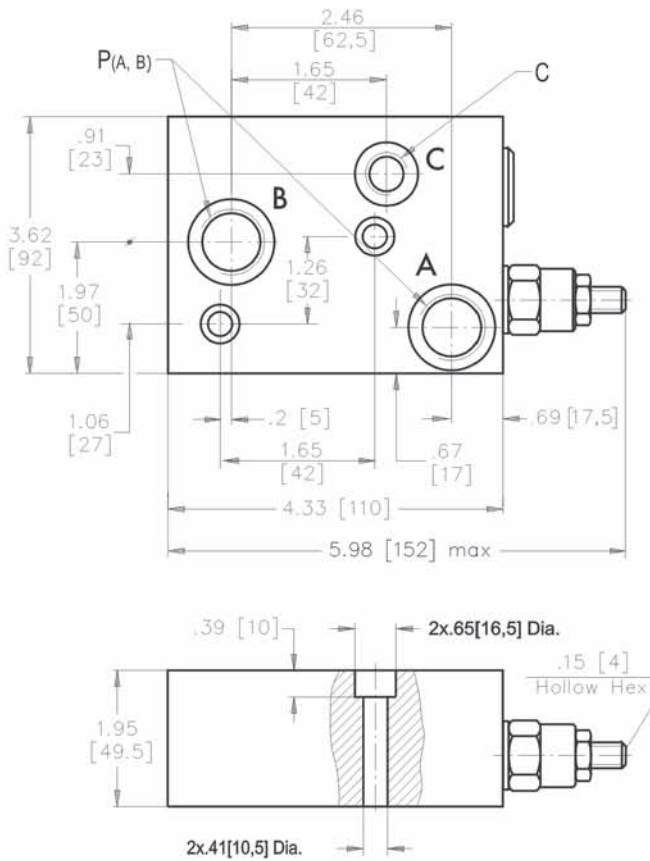


Note : KPBT Blocks are installed directly on MLHT Motors with four bolts M10x55 - 8.8 DIN 912. Tightening torque 442-398 in-lb [4,5<sup>+0,5</sup> daNm].

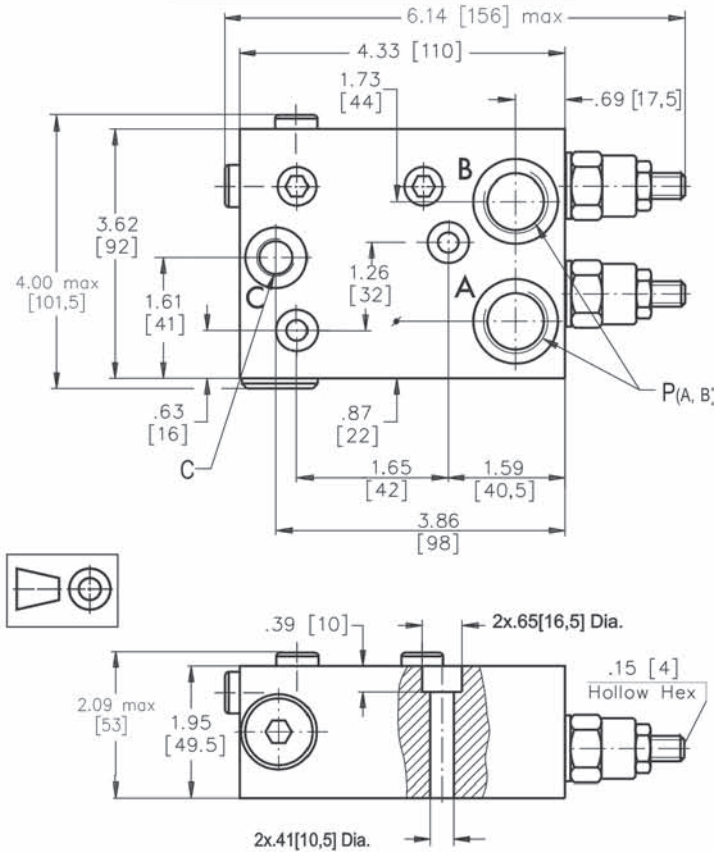
**OVERCENTER VALVES WITH BRAKE CONTROL (continued)**

**VALVES FOR MLHS HYDRAULIC MOTORS**

**SINGLE VALVE KPBS-250/1/E...**

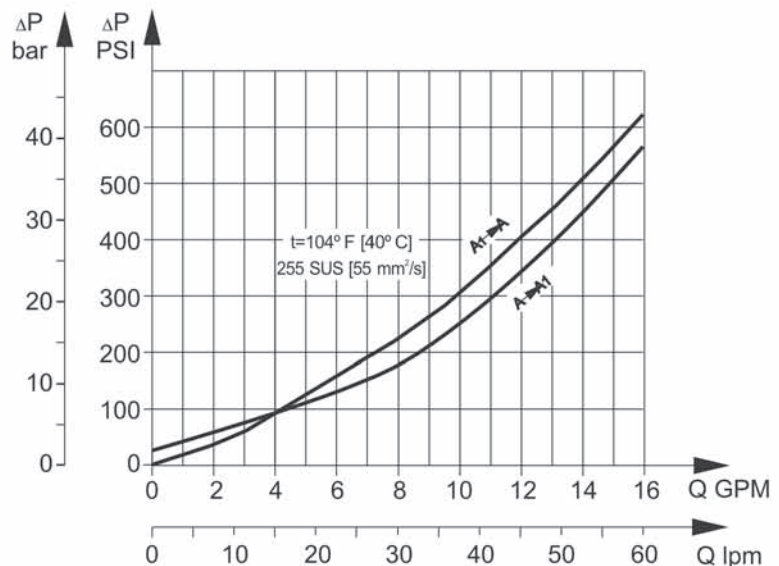


**DUAL VALVE KPBS-250/1/D...**



**Pressure Losses for KPBR(E/D) and KPBE(S/D)**

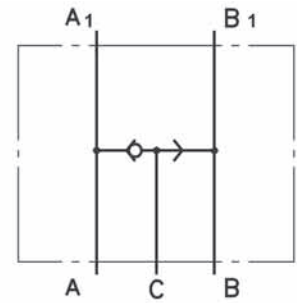
	Thread Ports - P <sub>(A,B)</sub>	Thread Ports - C
<b>A</b>	7/8 - 14 UNF O-ring .67 [17] deep	7/16 - 20 UNF O-ring .50 [12,7] deep
<b>-</b>	G1/2 .67 [17] deep	G1/4 .55 [14] deep
<b>M</b>	M22x1,5 .67 [17] deep	M14x1,5 .55 [14] deep



Note : KPBR Blocks are installed directly on MLHP and MLHR Motors with four bolts 5/16-18UNC, 1.97 long or M8x50 - 8.8 DIN 912. Tightening torque 221±177 in-lb [2<sup>+0,5</sup> daNm].  
 KPBS Blocks are installed directly on MLHS Motors with two bolts 3/8-16UNC, 1.97 long or M10x50 - 8.8 DIN 912. Tightening torque 442±398 in-lb [4,5<sup>+0,5</sup> daNm].



**SWITCH VALVE**

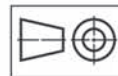
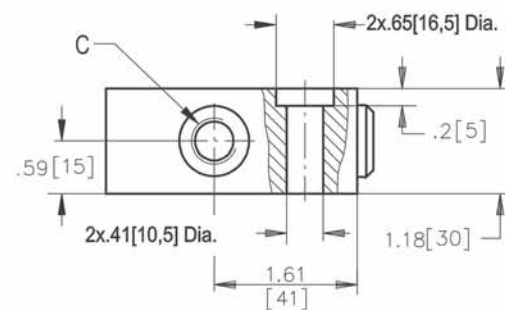
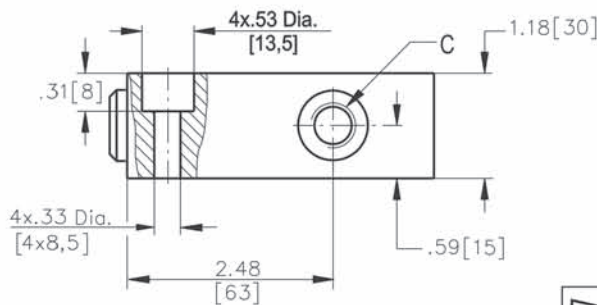
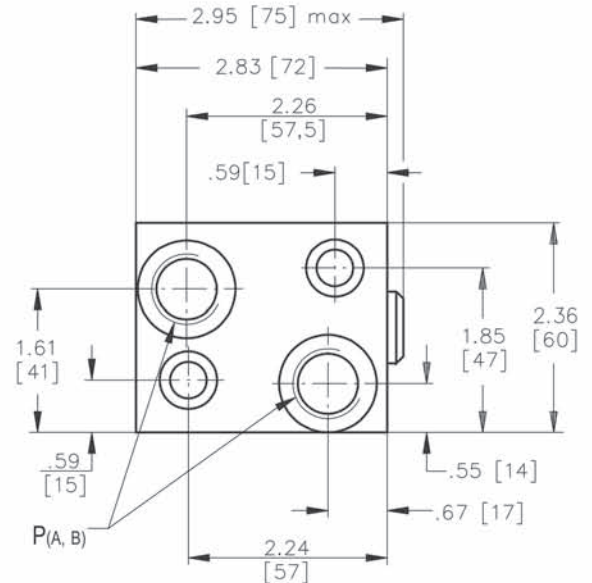
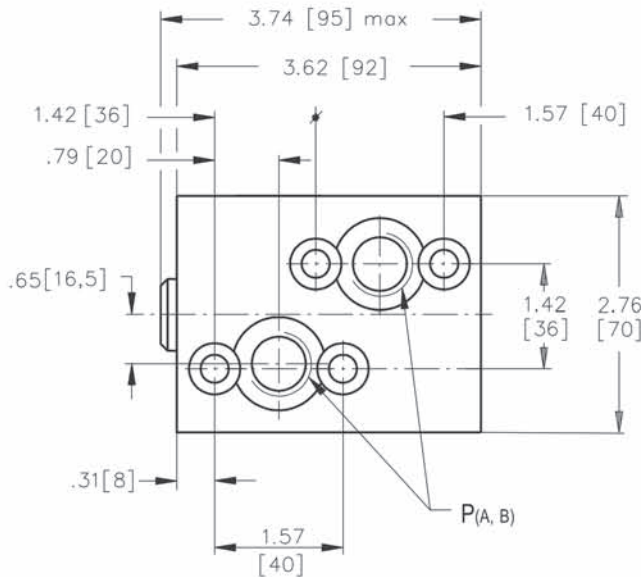


**SPECIFICATION DATA**

Parameters	Type	
	KPWR	KPWS
Flow Rate , GPM [lpm]	16 [60,6]	
Rated Pressure, PSI [bar]	3625 [250]	
Weight , lb [kg]	1.874[0,85]	1.477[0,67]

**VALVE FOR MLHP, MLHR HYDRAULIC MOTORS  
KPWR**

**VALVE FOR MLHS HYDRAULIC MOTORS  
KPWS**



	Thread Ports - P <sub>(A,B)</sub>	Thread Ports - C
<b>A</b>	7/8 - 14 UNF O-ring .67 [17] deep	7/16 - 20 UNF O-ring .50 [12,7] deep
<b>-</b>	G1/2 .67 [17] deep	G1/4 .55 [14] deep
<b>M</b>	M22x1,5 .67 [17] deep	M14x1,5 .55 [14] deep

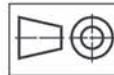
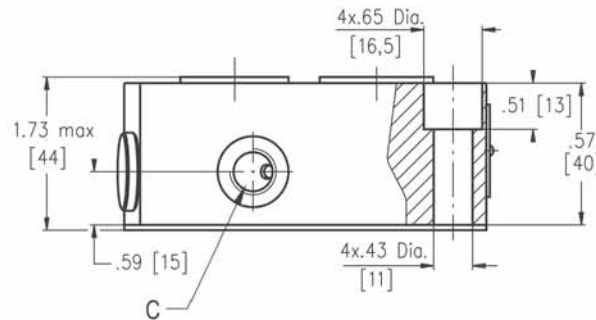
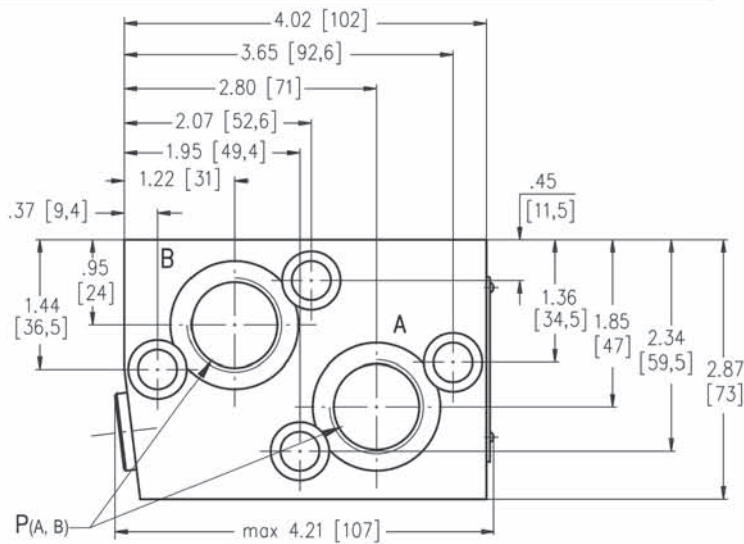
Note : KPWR Blocks are installed directly on MLHP and MLHR Motors with four bolts 5/16-18UNC, 1.57 long or M8x40 - 8.8 DIN 912. Tightening torque 221±177 in-lb [2<sup>+0,5</sup> daNm].  
 KPWS Blocks are installed directly on MLHS Motors with two bolts 3/8-16UNC, 1.57 long or M10x40 - 8.8 DIN 912. Tightening torque 442±398 in-lb [4,5<sup>+0,5</sup> daNm].

**SWITCH VALVE (continued)**

**SPECIFICATION DATA**

Parameters	Type
	KPWT
Flow Rate , GPM [lpm]	16 [60,6]
Rated Pressure , PSI [bar]	3625 [250]
Weight , lb [kg]	1.874[0,85]

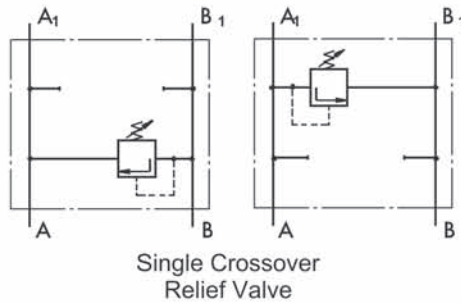
**VALVE FOR MLHT HYDRAULIC MOTORS  
KPWT**



	Thread Ports - P <sub>(A,B)</sub>	Thread Ports - C
<b>A</b>	1 1/16 - 12 UNF O-ring .67 [17] deep	7/16 - 20 UNF O-ring .50 [12,7] deep
<b>-</b>	G3/4 .67 [17] deep	G1/4 .55 [14] deep
<b>M</b>	M27x2 .67 [17] deep	M14x1,5 .55 [14] deep

Note : KPWT Blocks are installed directly on MLHT Motors with two bolts 3/8-16UNC, 1.97 long or M10x50 - 8.8 DIN 912. Tightening torque 442±398 in-lb [4,5<sup>+0,5</sup> daNm].

**CROSSOVER RELIEF VALVES**

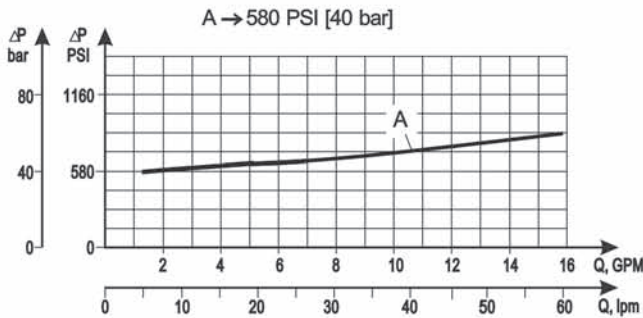


**SPECIFICATION DATA**

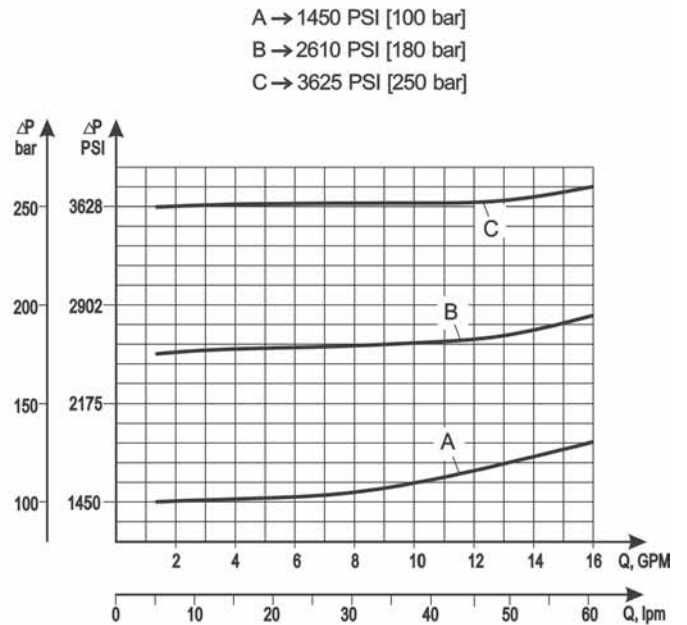
Parameters	Type					
	KPER(H)	KPES(H)	KPDR(H)	KPDS(H)	KPET	KPDT
Flow Rate , GPM [lpm]	16 [60,6]				32[121,2]	
Pressure Range* , PSI [bar]	75÷580; 435÷1450; 1160÷3625 [5 ÷ 40]; [30 ÷ 100]; [80 ÷ 250]				1160÷3050 [80÷210]	
Weight , lb [kg]	2.91 [1,32]	3.483 [1,58]	3.175 [1,44]	3.748 [1,70]	11.24 [5,10]	12.21 [5,54]

\*Pressure Settings are at flow rate of 1.3 GPM [5 lpm] and viscosity 164 SUS [35 mm<sup>2</sup>/s] (122° F [50 °C]).

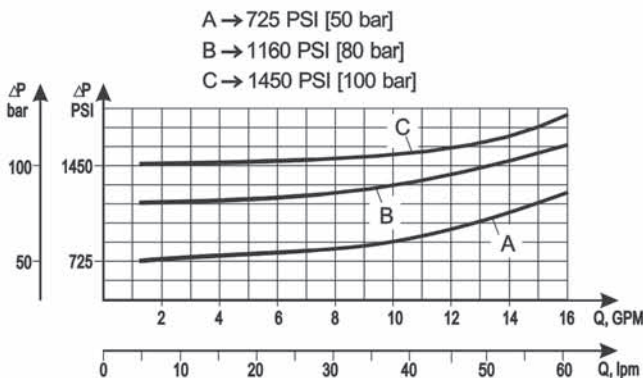
**Rated Pressure 75÷580 PSI [5÷40 bar]**



**Rated Pressure 1160÷3625 PSI [80÷250 bar]**

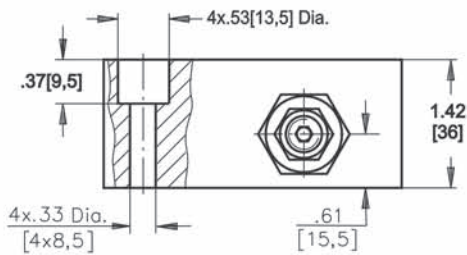
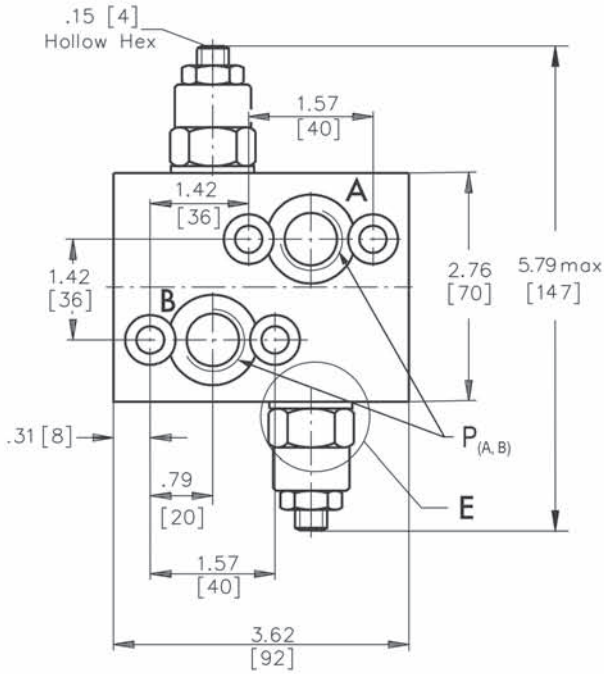


**Rated Pressure 435÷1450 PSI [30÷100 bar]**

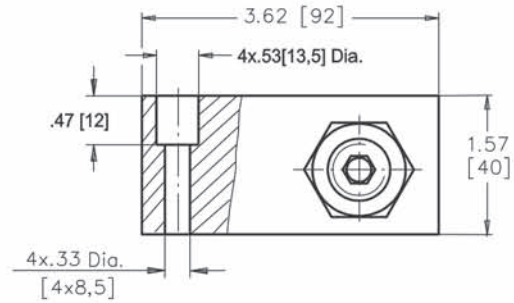
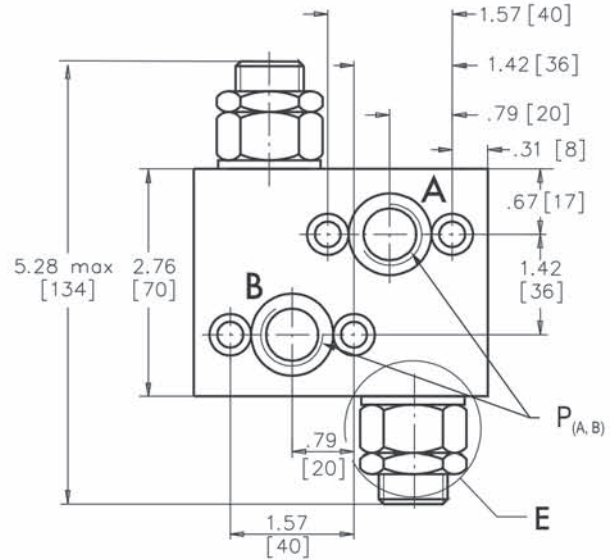


**VALVES FOR MLHP, MLHR HYDRAULIC MOTORS**

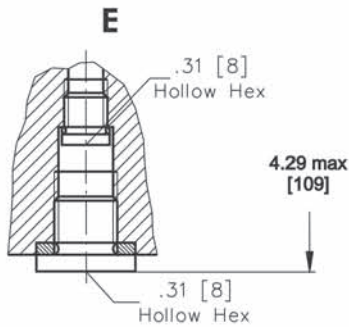
**DUAL VALVE KPDR.../...**



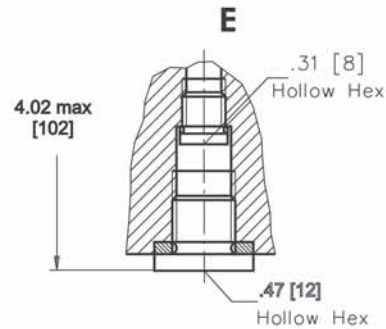
**DUAL VALVE KPDRH.../...**



**SINGLE VALVES KPER.../...**



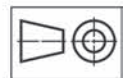
**SINGLE VALVES KPERH.../...**



	Thread Ports - P <sub>(A,B)</sub>	
	KPE(D)R	KPE(D)RH
<b>A</b>	7/8 - 14 UNF O-ring .59 [15] deep	7/8 - 14 UNF O-ring .67 [17] deep
<b>-</b>	G1/2 .59 [15] deep	G1/2 .67 [17] deep
<b>M</b>	M22x1,5 .59 [15] deep	M22x1,5 .67 [17] deep

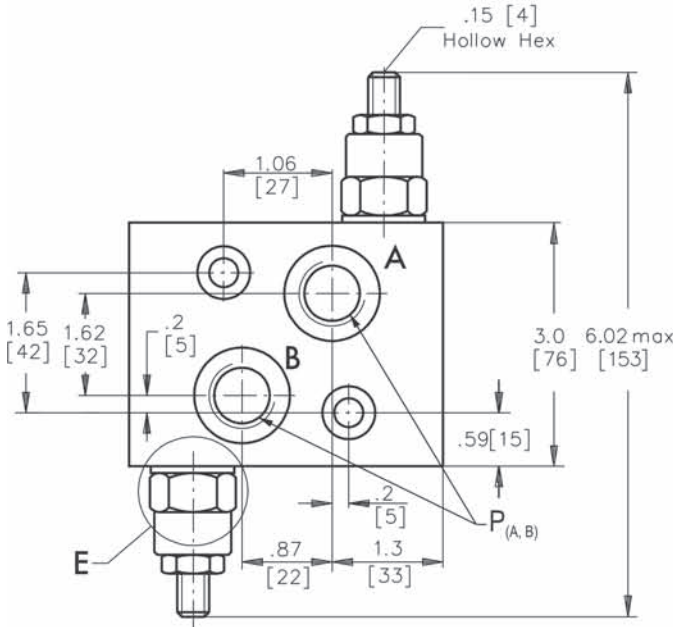
Note : KPDR(H) (KPER(H)) Blocks are installed directly on MLHP and MLHR Motors with four bolts 5/16-18UNC, 1.57 long or M8x40 - 8.8 DIN 912.

Tightening torque 221±177 in-lb [2<sup>+0,5</sup> daNm].

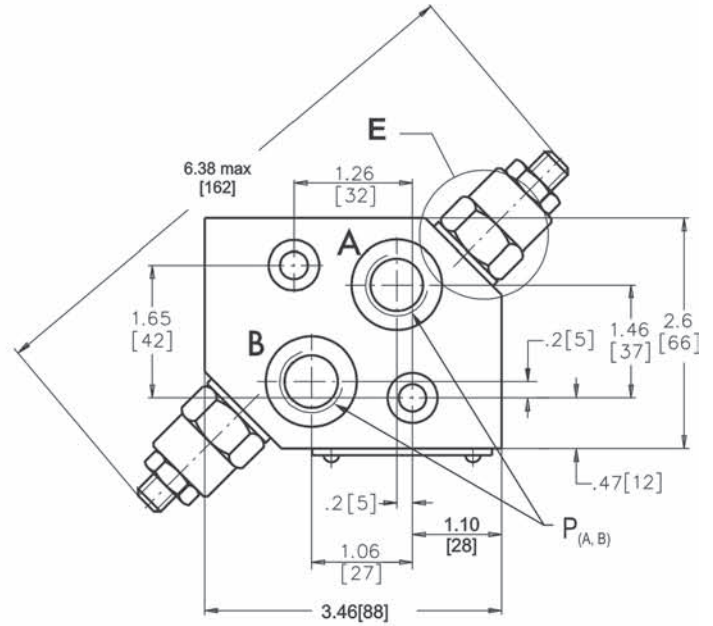


**VALVES FOR MLHS HYDRAULIC MOTORS**

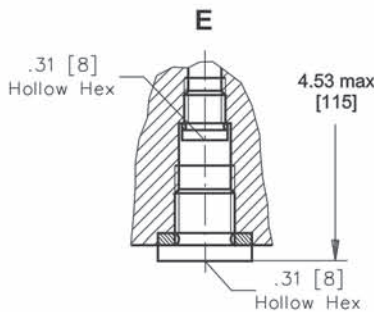
**DUAL VALVE KPDS.../...**



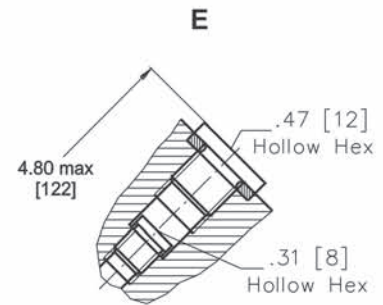
**DUAL VALVE KPDSH.../...**



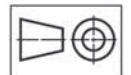
**SINGLE VALVES KPES.../...**



**SINGLE VALVES KPESH.../...**



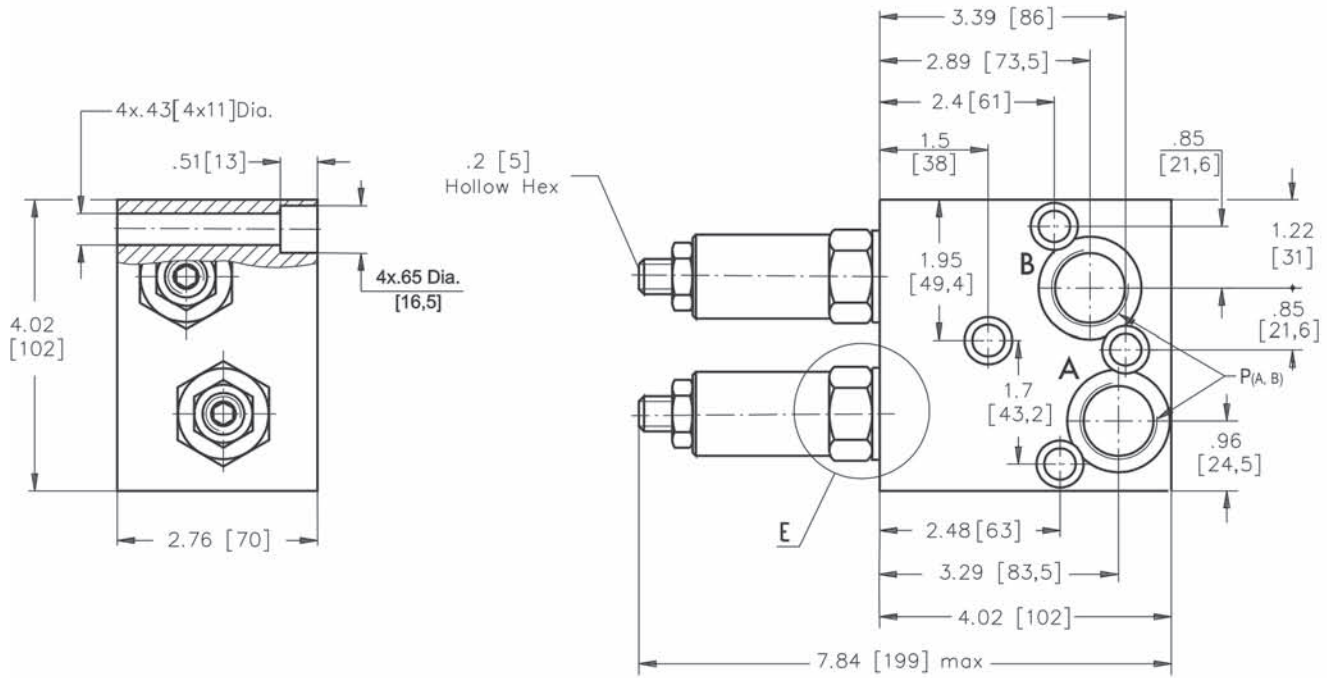
	Thread Ports - P <sub>(A,B)</sub>	
	KPE(D)S	KPE(D)SH
<b>A</b>	7/8 - 14 UNF O-ring .59 [15] deep	7/8 - 14 UNF O-ring .67 [17] deep
<b>-</b>	G1/2 .59 [15] deep	G1/2 .67 [17] deep
<b>M</b>	M22x1,5 .59 [15] deep	M22x1,5 .67 [17] deep



Note : KPDS(H) (KPES(H)) Blocks are installed directly on MLHS Motors with two bolts 3/8-16UNC, 1.57 long or M10x40 - 8.8 DIN 912. Tightening torque 442±398 in-lb [4,5<sup>+0,5</sup> daNm].

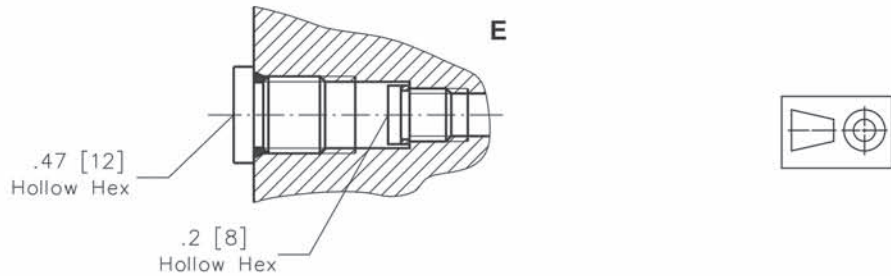
**VALVE FOR MLHT HYDRAULIC MOTORS**

**DUAL VALVE KPDT.../...**



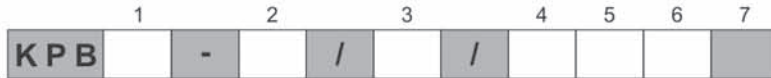
**SINGLE VALVE KPET .../...**

	Thread Ports - P <sub>(A,B)</sub>
A	1 1/16"-12 UN O-ring .79 [20] deep
-	G3/4 .79 [20] deep
M	M27x2 .75 [19] deep



Note: KPDT (KPET) Blocks are installed directly on MLHT Motors with four bolts M10x70 - 8.8 DIN 912. Tightening torque 442-398 in-lb [4,5<sup>+0,5</sup> daNm].

**ORDER CODE - OVERCENTER VALVES WITH BRAKE CONTROL**



**Pos.1 - Housing Type**

- R** - Valve block for MLHP and MLHR Motors
- S** - Valve block for MLHS Motors
- T** - Valve block for MLHT Motors versions 2, 3, 6 and 9

**Pos.2 - Pressure Range, PSI [bar]**

- 250** - 1015-3625 [70-250], Std Setting 250 bar@5 lpm

**Pos.3 - Pilot Ratio**

- 1** - 4,25:1

**Pos.4 - Number of Valves**

- D** - Two Valves - Dual
- E\*** - One Valve - Single

**Pos.5 - Threaded Ports**

- omit - BSPP thread - ISO 228
- A** - Unified inch screw threads ANSI B 1.1 - 1982
- M** - Metric thread - ISO 262

**Pos.6 - Option [Paint]\*\***

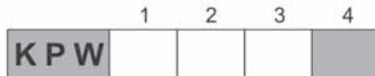
- omit - no Paint
- P** - Painted
- PC** - Corrosion Protected Paint

**Pos.7 - Design Series**

- omit - Factory specified

Notes: \* Position of valve (A or B) at customer's request.  
 \*\* Color at customer's request.

**ORDER CODE - SWITCH VALVES**



**Pos.1 - Housing Type**

- R** - Valve block for MLHP and MLHR Motors
- S** - Valve block for MLHS Motors
- T** - Valve block for MLHT Motors versions 2, 3, 6 and 9

**Pos.2 - Threaded Ports**

- omit - BSPP thread - ISO 228
- A** - Unified inch screw threads ANSI B 1.1 - 1982
- M** - Metric thread - ISO 262

**Pos.3 - Option [Paint]\***

- omit - no Paint
- P** - Painted
- PC** - Corrosion Protected Paint

**Pos.4 - Design Series**

- omit - Factory specified

Notes: \* Color at customer's request.

**ORDER CODE - CROSSOVER RELIEF VALVE**



**Pos.1 - Number of Valves**

- D** - Two Valves - Dual
- E\*** - One Valve - Single

**Pos.2 - Housing Type**

- R** - Valve block for MLHP and MLHR Motors
- S** - Valve block for MLHS Motors
- T** - Valve block for MLHT Motors versions 2, 3, 6 and 9

**Pos.3 - Design Code**

- omit - Model 1
- H\*\*** - Model 2

Notes: \* Position of valve (A or B) at customer's request.  
 \*\* Useful for types **R** and **S** only.  
 \*\*\* Useful for type **T** only.  
 \*\*\*\* Color at customer's request.

**Pos.4 - Pressure Range, PSI [bar]**

- 40** - 75-580 [5-40], Std Setting 40 bar@5 lpm
- 100** - 435-1450 [30-100], Std Setting 100 bar@5 lpm
- 250** - 1160-3625 [80-250], Std Setting 250 bar@5 lpm
- 210\*\*\*** - 1160-3050 [80-210], Std Setting 210 bar@5 lpm

**Pos.5 - Threaded Ports**

- omit - BSPP thread - ISO 228
- A** - Unified inch screw threads ANSI B 1.1 - 1982
- M** - Metric thread - ISO 262

**Pos.6 - Option [Paint]\*\*\*\***

- omit - no Paint
- P** - Painted
- PC** - Corrosion Protected Paint

**Pos.7 - Design Series**

- omit - Factory specified

The Valve Blocks are mangano phosphatized as standard.