



HYDRAULIC BLOCK & STOP VALVE SYSTEMS HBH SERIES

PRODUCT CATALOG



HBH Series Hydraulic Block & Stop Redundant Valve Systems for External Monitoring

Block & Stop Safety Function

Blocks the flow of hydraulic fluid in order to stop cylinder motion.



Illustration example.

The HBH Series valves are redundant blocking valve systems designed for critical applications where safe block and stop is required for hydraulically controlled cylinders. These valve systems are equipped with inductive position switches for external monitoring by an electrical safety control system.

VALVE SYSTEM FEATURES

External Monitoring	Each single valve in the HBH Series system is equipped with inductive position switches. Monitoring of these switches is to be done by an electrical safety control system.
Poppet and Spool Type Design	Poppet-type cartridge valve elements for blocking flow and stopping cylinder motion. Solenoid pilot valves are spool type.
Tamper Resistant	Special tool required for disassembly
Mounting	In-line – with Code 62 Flange ports

These valves are not designed for controlling clutch/brake mechanisms on mechanical power presses.

PRODUCT CREDENTIALS

<p>Performance Level Per ISO 13849-1:2015</p>  <p>Pending</p>	<p>Safety Integrity Level Per IEC 2061:2001</p>  <p>Pending</p>	<p>Declaration of Conformity</p>  <p>Pending</p>
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STANDARD SPECIFICATIONS

GENERAL	Function		Block & Stop			
	Construction Design		Redundant valve system, Poppet type with Spool type pilot valves			
	Actuation	Electrical	Solenoid- 2 per system			
			One solenoid per valve element Both to be operated synchronously			
	Mounting	Type	In-line			
		Orientation	Any, preferably horizontal			
	Connection (hydraulic)		Code 62 Flange (P1 & P2), SAE (X, Y, MP1, M-M, MP2)			
	Monitoring		Dynamic, cyclical, external with customer supplied equipment. Monitoring should check state of both valve position switches with any and all changes in state of valve control signals. See Integration Guide.			
Minimum Operation Frequency		Once per month, to ensure proper function				
OPERATING CONDITIONS	Temperature	Ambient	-4° to 160°F (-20° to 71°C)			
		Media	-4° to 140°F (-20° to 60°C)			
	Flow Media	Hydraulic Fluids	Mineral Oil HLP, HL-DIN 51524			
			Vegetable Oil HETG - VDMA 24568			
	Max Fluid Contamination Level		ISO 4406 class 20/18/15 NAS 1638 class 9			
	Flow	Size 25	90 gpm			
		Size 32	145 gpm			
Operating Pressure		5000 psi (344 bar) maximum				
ELECTRICAL DATA	Solenoids	Current Flow	Operating Voltage	Power Consumption (each solenoid)		
		DC	24 volts	30 watts		
		Rated for continuous duty				
		Design according to VDE 0580				
	Enclosure Rating		DIN EN 60529 IP 65			
	Electrical Connection		DIN EN 175301-803 Form A			
	Power Consumption (each solenoid)		30 watts			
Inductive Position Switch (2 per system)		PNP (M12, 4-pin, A-coded, male); works with both 4-pin & 5-pin female cord sets				
Maximum Current (each switch)		400mA maximum				
CONSTRUCTION MATERIAL	Valve Body		Cast Steel			
	Manifold		Ductile Iron			
	Spool		Steel			
	Seals		Buna-N			

IMPORTANT NOTE: Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.

Ordering Information

MODEL NUMBER CONFIGURATOR

HBH **D** **D** **XX** **682F** **B** **A** **E** **X** **A***

Series
 Double

Valve Type
 Double

Material Type
 Ductile Iron

Pressure Relief
 No Pressure Relief Valve

Revision Level
 None

Communication
 None

Monitoring
 External

Voltage
 24 V DC

Seal Type
 Buna-N

Body Size	Flow Rate	Port Size	Port Type	
25	0 to 90 gpm	1-1/2	Code 62 Flange	682F
		2	Code 62 Flange	692F
32	0 to 145 gpm	2	Code 62 Flange	792F

*Subject to change.

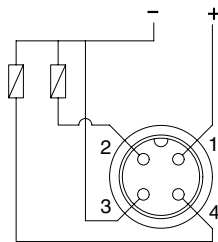
Model Number examples: HBHDDXX692FBAEXA, HBHDDXX792FBAEXA.

Custom configurations available, consult ROSS.

Body Size	Weight lb (kg)
25	112.3 (50.9)
32	142.8 (64.8)

Wiring Diagram

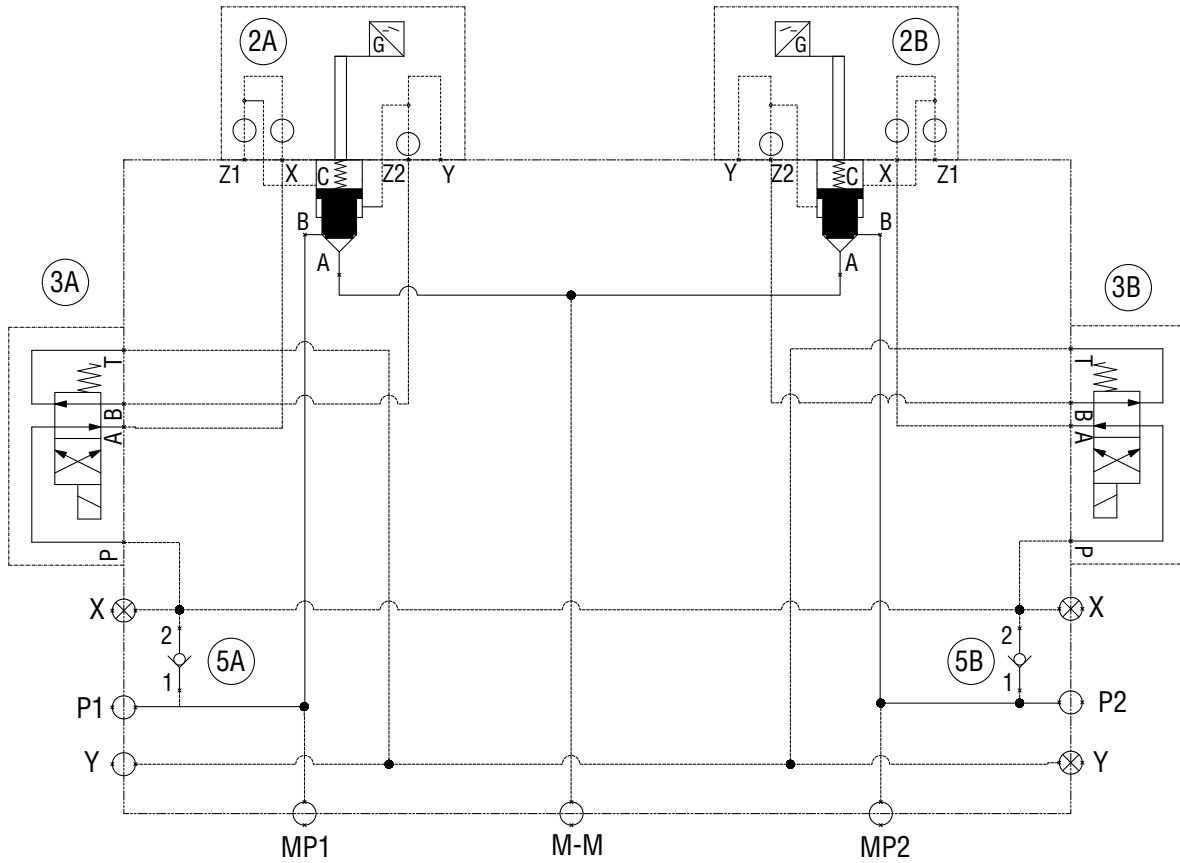
Inductive Position Switch Connector



- 1 = Supply +24 volts DC
- 2 = Output Signal NC
- 3 = Ground
- 4 = Output Signal NO

NOTE: PNP (M12, 4-pin, A-coded, male); works with both 4-pin & 5-pin female cord sets.

VALVE SYSTEM SCHEMATIC



An Integration Guide for HBH Series valve systems is available from ROSS to provide information such as operation, monitoring, and integration into users control circuits.

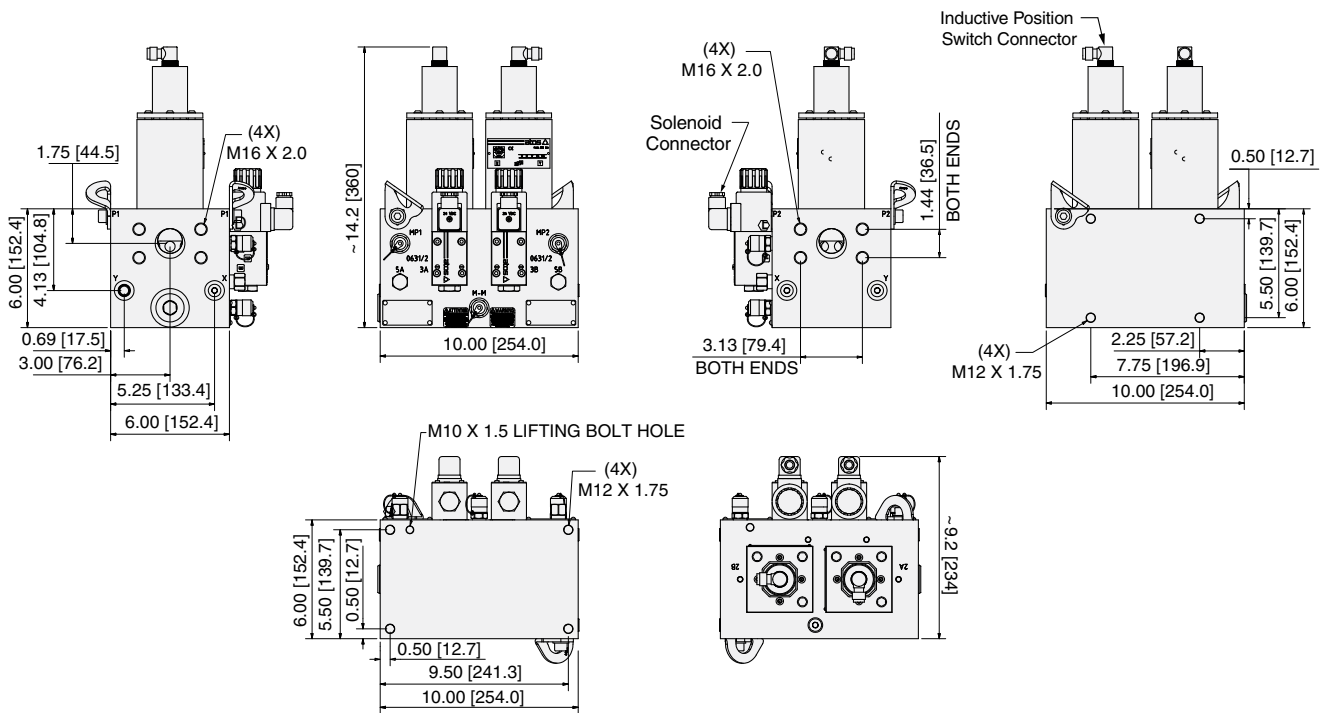
Technical Data

DIMENSIONS

Inches (mm)

Body Size 25
Port Size 1-1/2

Ports List	
ID	Name
P1	1.500 MT 62
P2	1.500 MT 62
X	SAE # 6
Y	SAE # 6
MP1	SAE # 6
M-M	SAE # 6
MP2	SAE # 6



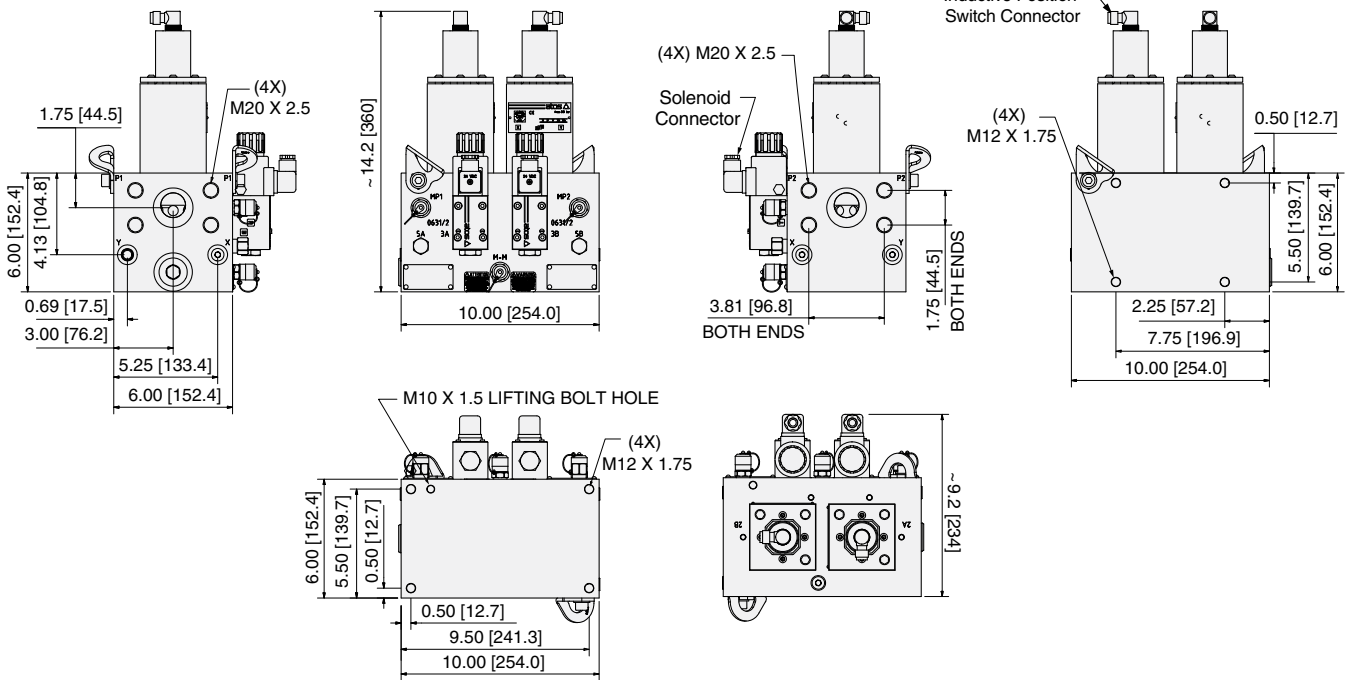
Downloadable CAD models available.

DIMENSIONS

Inches (mm)

Body Size 25
Port Size 2

Ports List	
ID	Name
P1	2.000 MT 62
P2	2.000 MT 62
X	SAE # 6
Y	SAE # 6
MP1	SAE # 6
M-M	SAE # 6
MP2	SAE # 6



Downloadable CAD models available.

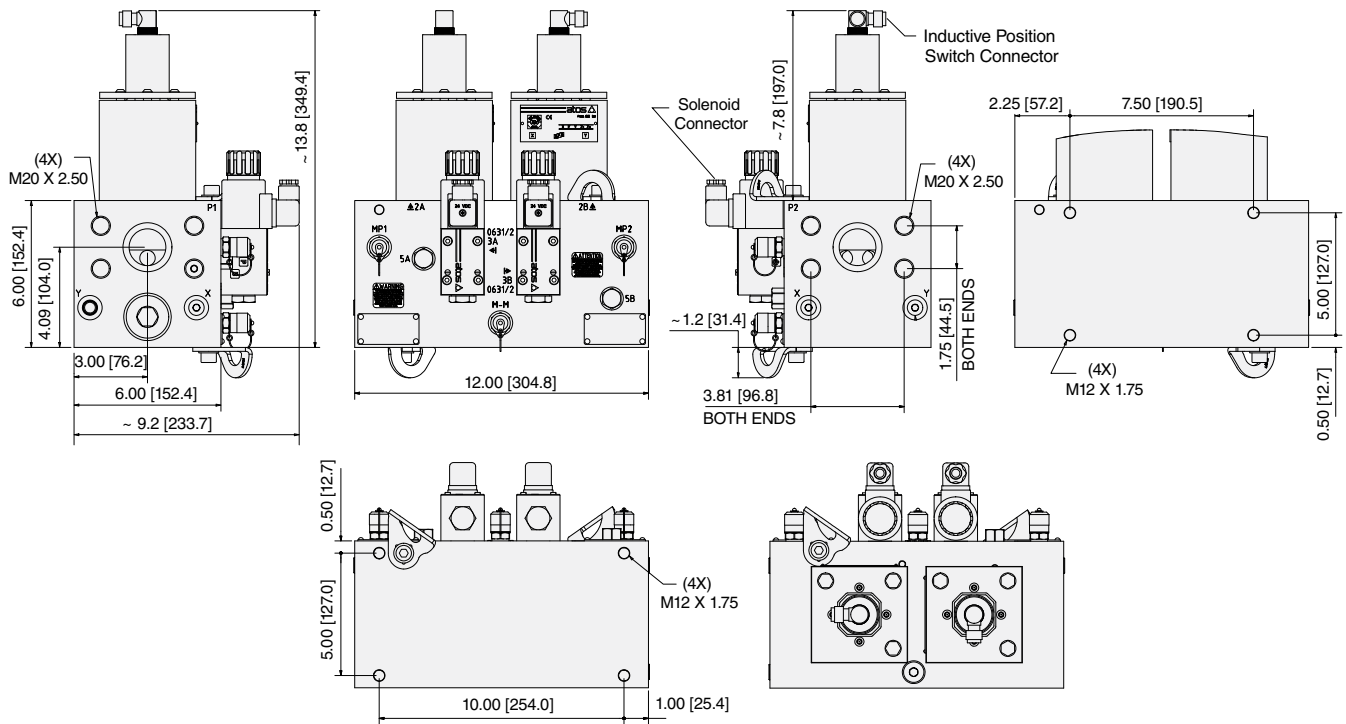
Technical Data

DIMENSIONS

Inches (mm)

Body Size 32

Ports List	
ID	Name
P1	2.000 MT 62
P2	2.000 MT 62
X	SAE # 6
Y	SAE # 6
MP1	SAE # 6
M-M	SAE # 6
MP2	SAE # 6



Downloadable CAD models available.

PREWIRED ELECTRICAL CONNECTORS



Illustration example.

Prewired Connector Kits	Cable						Kit Number
	End 1	End 2	Length meters (feet)	Connection	Quantity Included	Cord Diameter mm	Without Light
	Connector	Cord /Connector					
DIN EN 175301-803 Form A	Flying leads	5 (16.4)	Solenoid	2	6	2243H77	
		10 (32.8)	Solenoid	2	6	2244H77	
M12 5-pin, Female	Flying leads	5 (16.4)	Sensor	2	6	2644B77	
		10 (32.8)	Sensor	2	6	2370B77	
	M12 5-pin, Male	5 (16.4)	Sensor	2	6	2645B77	
		10 (32.8)	Sensor	2	6	2371B77	

Prewired Connectors	Cable						Model Number	
	End 1	End 2	Connection	Quantity Included	Length meters (feet)	Cord Diameter mm	Without Light	Lighted Connector
	Connector	Cord						24 V DC
DIN EN 175301-803 Form A	Flying leads	Solenoid	1	2 (6.5)	6	721K77	720K77-W	
					10	371K77	383K77-W	

ELECTRICAL CONNECTORS

Connectors	Connector					Model Number	
	Type	Connection	Fitting Connection	Quantity Included	Cord Diameter mm	Without Light	Lighted Connector
	24 V DC						
DIN EN 175301-803 Form A	Solenoid	Cable grip	1	8 to 10	937K87	936K87-W	
		1/2" NPT conduit	1	-	723K77	724K77-W	

CAUTIONS: Do not use electrical connectors with surge suppressors, as this may increase valve response time when de-actuating the solenoids.

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CAUTIONS, WARNINGS

Additional technical documentation, cautions and warnings information is available.

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