

MVP Multi-Valve Platform

INTRODUCTION

Hansen Technologies introduces the Multi-Valve Platform (MVP). The MVP is a rugged, compact refrigerant control valve station. Ships pre-tested and assembled for quick and easy installation, requiring only two welds to complete most valve station applications. Hansen control valve functions include solenoid valve, two-step solenoid valve, all common Hansen pressure regulator functions (inlet, outlet, dual pressure, etc), gas powered suction stop (2-1/2" - 4" port sizes) and motorized control valve (1/2" - 4" port sizes). MVP valves use the same pilot modules and internal parts as the standard Hansen pressure regulators and solenoid valves.

APPLICATIONS

The MVP valve is well suited for applications including pumped liquid feed to evaporators, liquid make-up to flooded and recirculator vessels, liquid injection for screw compressors, hot gas defrost to evaporators, and evaporator pressure control. MVP20 - MVP50 have up to six separate functions possible: stop valve, strainer, control valve (solenoid/pressure regulator/motorized), check, hand expansion, and stop check valve. The functions available on MVP65 - MVP100 are: stop valve, control valve (solenoid/pressure regulator/motorized), or gas-powered suction stop valve.

ADVANTAGES

Installed cost savings is a huge advantage of the MVP valve. Faster installation, less pipe cutting, welding assembly time, insulation, and freight equal reduced costs. In addition, the compact valve body saves installation space and valve group weight.

MVP20 - MVP50 valves includes five pressure gauge ports to measure pressure at multiple locations on the valve, as well as a 3/4" NPT side connection for pilot line to gas-powered suction valve. MVP65 - MVP100 valves include 3 pressure gauge ports as well as a customizable side port feature for use with defrost condensate piping.

Specifications, Applications, Service Instructions & Parts

MVP MULTI-VALVE PLATFORM VALVE STATION

**1/2" - 4" Port
(13mm - 100mm)
FPT, SW, BW, ODS for Refrigerants**



KEY FEATURES

- Reduced installation time and cost
- Eliminates flange gasket leak potential
- Pressure regulator or solenoid control function
- Motorized control functions
- Gas powered suction stop
- Most parts are the same as standard Hansen valves — saves on stocking spare parts and training
- Simple, identifiable configuration
- Manual opening function standard
- No stop valve stems in the bottom of valve
- Full size stainless steel mesh strainer (MVP13 - MVP50)
- Four to six control functions in one unit
- Suitable for all Hansen approved refrigerants including R717, R134a, R404, R507 and CO2

PORT SIZES

1/2"-4" (13mm-100mm)

CONNECTION STYLES AND SIZES

FPT (MVP13 only): 1/2"-3/4" (13mm-20mm)

Socket Weld: 1/2"-2" (13mm-50mm)

Butt Weld: 1/2"-4" (13mm-100mm)

ODS: 5/8"-2 5/8" (16mm-67mm)

*All MVP models available in ACT

2-1/2" - 4" MVP models standard in ACT

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MVP13 - MVP50

MATERIAL SPECIFICATIONS

Safe Working Pressure: 600 psig (41 bar g)
Operating Temperature: -60°F to 240°F (-51°C to 115°C)

MATERIALS

Body: MVP13 Forged steel, ASTM A105;
MVP20 thru 50 Cast steel, ASTM A352 Grade LCB
Gaskets: Non-asbestos graphite composite
Stem Packing: Graphite composite plus
neoprene O-ring in series

POSITION 1 SHUT-OFF VALVE

Bonnet: Ductile iron ASTM A536
Stem: Polished stainless steel
Disc Holder: Plated steel
Seat Disc: Retained Teflon
Ball Bearings: Stainless steel
Packing Nut: Zinc plated steel
Seal Cap: MVP13 - MVP32 Glass filled polymer (black),
safety vented;
MVP40 - MVP50 Zinc plated steel
Hand Wheel (Optional): MVP13-MVP32 Zinc plated
alloy; MVP40-MVP50, Zinc plated iron

POSITION 2 STRAINER

Cover: MVP13 Steel ASTM A311
MVP20 - MVP50 ASTM A36
Screen: MVP13 Stainless steel, 100 mesh (150 micron)
MVP20 - MVP50 Stainless steel
60 mesh (233 microns), Standard
100 mesh (150 micron), Optional
Drain Plug: MVP13 ¼" NPT Optional
MVP20 - MVP50 ½" NPT Standard

POSITION 3 CONTROL VALVE: MVP13 (Solenoid)

Bonnet: Steel, ASTM A311
Piston/Seat: Stainless steel with teflon seat
Valve Seat: Stainless steel, removable
Manual Open Stem: Solenoid, Stainless steel
Pulse Width Expansion, Stainless steel,
zinc plated yellow
Seal Cap: Glass-filled polymer; safety vented;
solenoid (black), PXV (yellow)
Maximum Operating Pressure Differential:
Solenoid, 300 psi (20.7 bar), standard
500 psi (34.5 bar) available upon request

POSITION 3 CONTROL VALVE: MVP20 - MVP50 (Solenoid, 'SD' Solenoid, or Regulator)

Adapter: Ductile Iron, ASTM A536
Piston: Steel, disc type, spring energized teflon seal
V-port/Seat: Ductile iron with teflon seat
Main Seat: Stainless steel, removable
Manual Opening Stem: Stainless steel
Pilots: Ductile iron or steel
Pilot Orifice: Stainless steel
'SD' Upper Piston: Steel, disc type, spring
energized teflon seal
'SD' Upper Housing: Ductile iron, ASTM A536
Maximum Operating Pressure Differential:
300 psi (20.7 bar) standard
500 psi (34.5 bar) available upon request

POSITION 3 CONTROL VALVE: MVP13 - MVP50 (Motorized Control Valve)

Bonnet Plate: Steel, zinc plated yellow
V-port Seat: Teflon
Rotor Can: Stainless steel
Rotor Can O-ring: Neoprene
Stator Housing: Stainless steel

POSITION 4 SHUT-OFF (-1) HAND EXPANSION (-2) STOP-CHECK/HEV (-3) STOP-CHECK (-4) CHECK (-5) BLANK COVER (-6) MOTORIZED CONTROL VALVE (-7)

Bonnet: Ductile iron ASTM A536
MVP20 - MVP32 (-5) Steel ASTM A36;
Stem (-1 thru -4): Polished stainless steel
Disc Holder (-1): Plated steel
Seat Disc (-1 thru -4): Teflon
Ball Bearings (-1 & -2): Stainless steel
Packing Nut (-1 thru -4): Zinc plated steel
Seal Cap: Color is -1 Black or zinc plated steel,
-2 & -3 Yellow, -4 Green
MVP13 - MVP32 Glass filled polymer,
safety vented;
MVP40 - MVP50 Zinc plated steel
Handwheel (-1 & -4): MVP13 - MVP32 Zinc plated
alloy; MVP40 - MVP50, Zinc plated iron
Bar Handle (-2 & -3): Zinc plated steel
Spring (-3 thru -5): Stainless steel
Throttling Plug (-2): Zinc plated carbon steel
Piston/Seat (-3 thru -5): Ductile iron with teflon seat
Spool Insert/Seat (-1 thru -5):
MVP13 Stainless steel seat (removable)
MVP20 - MVP50 Stainless steel seat (removable),
Ductile iron spool ASTM A536 (removable)

MVP65 - MVP100

MATERIAL SPECIFICATIONS

Safe Working Pressure: 400 psig (28 bar g)

Operating Temperature: -60°F to 240°F (-51°C to 115°C)

MATERIALS

Body: ACT coated Cast steel, ASTM A352 Grade LCB

Gaskets: Non-asbestos graphite composite

Stem Packing: Graphite composite plus
neoprene O-ring in series

POSITION 1 SHUT-OFF VALVE BLANK COVER (-8)

Bonnet: Ductile iron ASTM A536

Stem: Polished stainless steel

Disc Holder: Plated steel

Seat Disc: Retained Teflon Ball

Bearings: Stainless steel

Packing Nut: Stainless steel

Seal Cap: ACT coated steel

Blank cover: ASTM A36

Hand Wheel (Kit): ACT coated iron

POSITION 2 CONTROL VALVE

(Solenoid, 'SD' Solenoid, or Regulator)

Adapter: Ductile Iron, ASTM A536

Piston: Steel, disc type, spring energized teflon seal

V-port/Seat: Ductile iron with teflon seat

Main Seat: Stainless steel, removable

Manual Opening Stem: Stainless steel

Pilots: Ductile iron or steel

Pilot Orifice: Stainless steel

'SD' Upper Piston: Steel, disc type, spring
energized teflon seal

'SD' Upper Housing: Ductile iron, ASTM A536

Maximum Operating Pressure Differential:
300 psi (20.7 bar) standard

POSITION 2 CONTROL VALVE: MVP65 - MVP100 *(Motorized Control Valve)*

Bonnet Plate: Steel, ACT plated

V-port Seat: Teflon

Rotor Can: Stainless steel

Rotor Can O-ring: Neoprene

Stator Housing: Stainless steel

POSITION 2 CONTROL VALVE

(Two-Step Gas Powered Suction Stop)

Bonnet: ACT coated Steel ASTM A36

Piston: Ductile Iron ASTM A536

Stem: Polished stainless steel

Packing Nut: Stainless steel

Seal Cap: ACT plated steel

Strainer Flanges: Ductile Iron ASTM A536

Strainer Nipple: Stainless steel

POSITION 3 SHUT-OFF (-1) BLANK COVER (-6)

Bonnet: ACT coated Ductile Iron ASTM A536

Stem: Polished stainless steel

Disc Holder: Plated steel

Seat Disc: Teflon

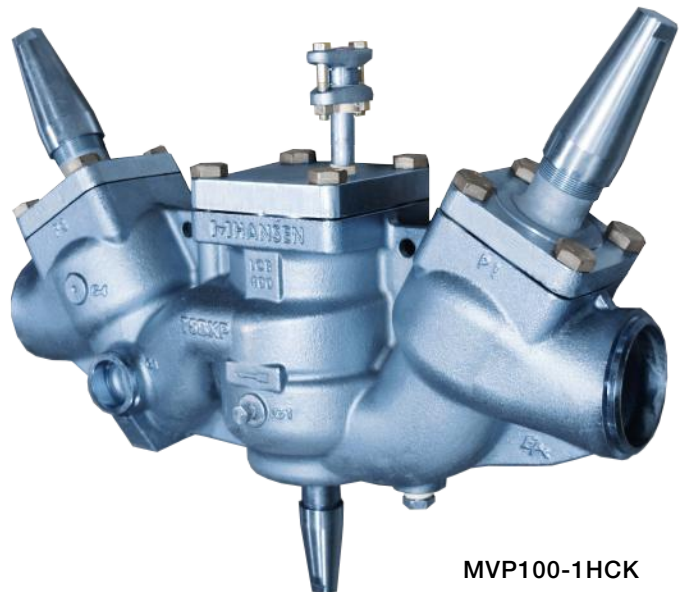
Ball Bearings: Stainless steel

Packing Nut: Stainless steel

Seal Cap: ACT coated steel

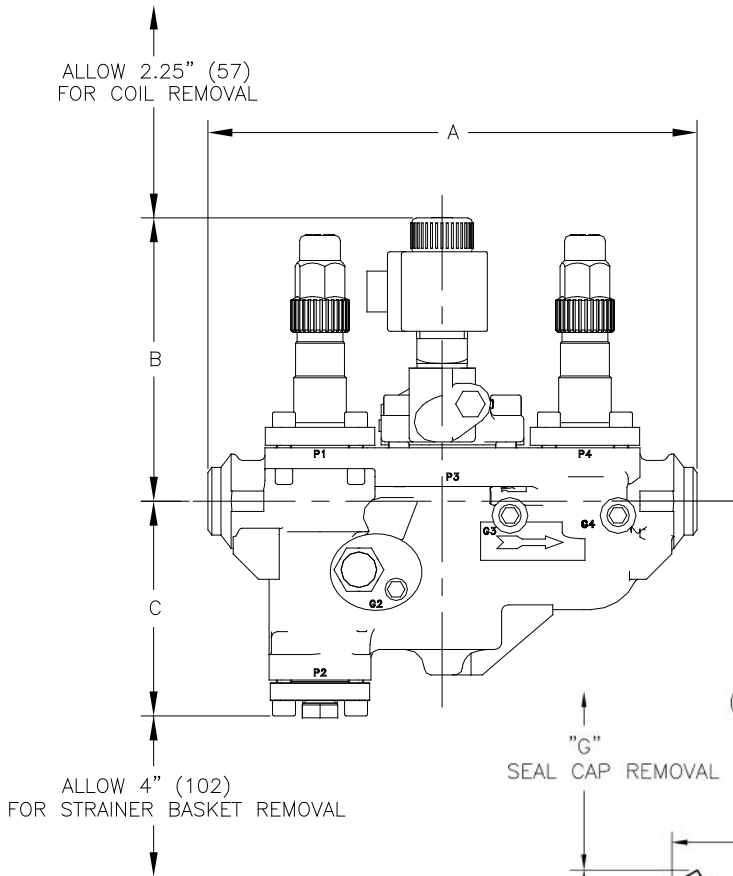
Blank cover: ASTM A36

Hand Wheel (Kit): ACT coated iron



MVP100-1HCK

INSTALLATION DIMENSIONS INCHES (MM)



Socket Weld:

ID matches steel pipe	
Depth 1/2"-1" Connections	0.50 in (13mm)
1 1/4" & 1 1/2" Connections	0.62 in (16mm)
2" Connections	0.88 in (22mm)

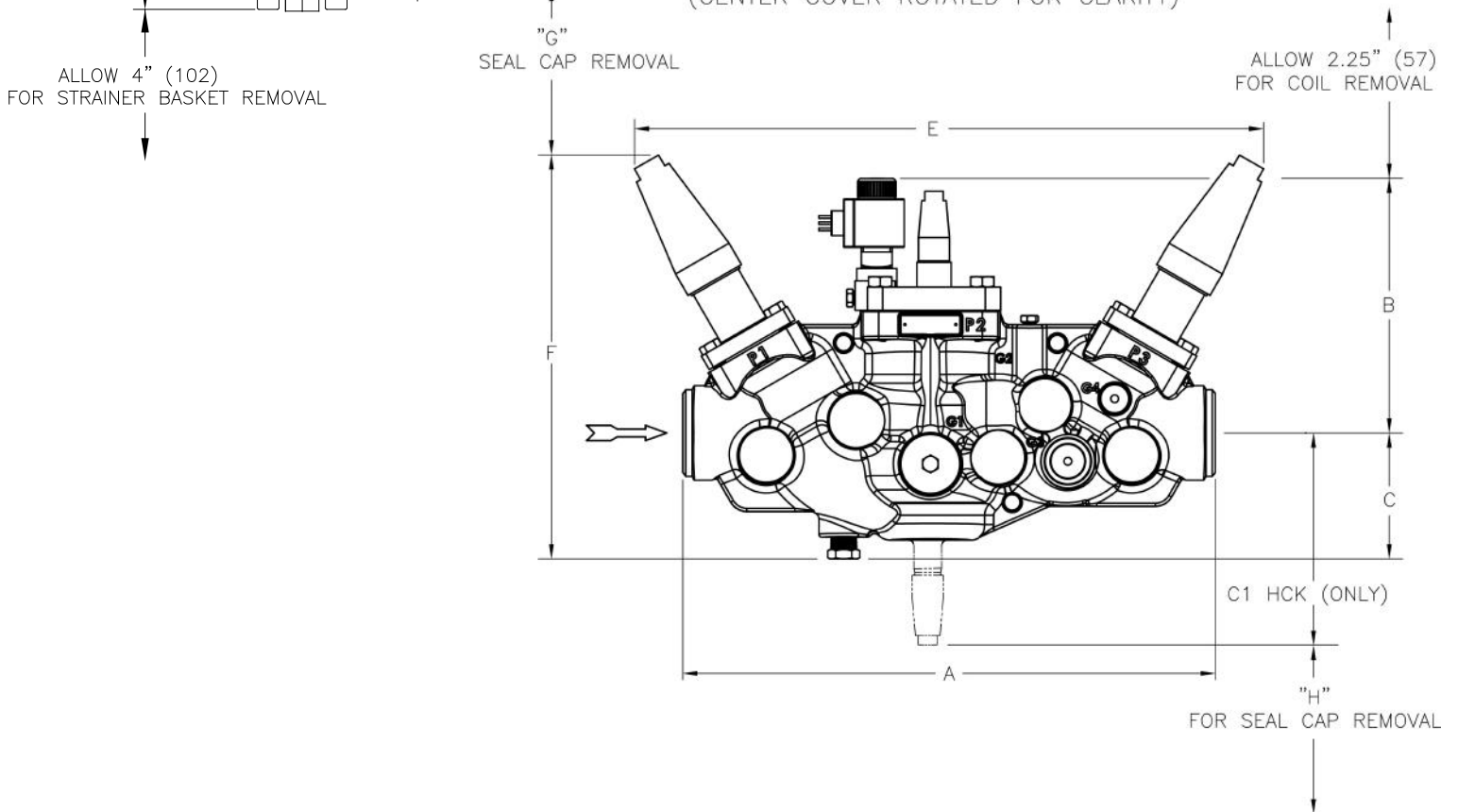
Butt weld (Weld neck):

OD and ID	
matches schedule 80 steel pipe 1/2"-1 1/2"	
matches schedule 40 steel pipe 2"-4"	

Threaded (MVP13 only):

Female threads match steel pipe 1/2"-3/4"	
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(CENTER COVER ROTATED FOR CLARITY)



PORT SIZE (mm)	DIMENSIONS (mm)							
	A	B (MIN/MAX)	C	C1 (HCK ONLY)	D (WIDTH MAX)	E	F	G
1/2" (13)	9.50" (241)	6.70"-8.50" (170-216)	4.50" (114)	N/A	4" (102)	N/A	N/A	N/A
3/4"-1 1/4" (20-32)	12.00" (305)	6.95"-15.6" (176-396)	4.89" (124)	N/A	12" (305)	N/A	N/A	N/A
1 1/2"-2" (40-50)	16"	7.58"-16.23" (193-412)	6.94" (176)	N/A	12" (305)	N/A	N/A	N/A
2 1/2"-3" (65-80)	21.50" (546)	10.28" / 15.0" (261 / 381)	5.08" (129)	8.51" (216)	12" (305)	25.65" (651)	16.55" (420)	5" (127)
4" (100)	28.75" (730)	10.58" / 15.25" (269 / 387)	5.87" (149)	10.43" (265)	14" (356)	29.48" (749)	19.21" (488)	4" (102)

	MVP Side Ports			
	G1	G2	G3	G4
MVP13	N/A	1/2" NPT (1x) 1/4" NPT (1x)	N/A	N/A
MVP20-50	N/A	3/4" NPT (1x) 1/4" NPT (1x)	1/4" NPT (2x)	1/4" NPT (2x)
MVP65-100	1/4" NPT (X2)	1/4" NPT (1x)	FACTORY	FACTORY

POSITION OPTIONS

MVP20 - MVP50

POSITION 1 (P1)

Position 1 is always a shut-off valve. The shut-off valve size is ¾" for ½" port sizes (MVP13). The shut-off valve size is 1¼" for the ¾" thru 1¼" port sizes (MVP20 – MVP32). The shut-off valve size is 2" for the 1½" and 2" port sizes (MVP40 and MVP50).

POSITION 2 (P2)

Position 2 is the strainer. 100 mesh (150 micron) strainer is standard for MVP13. 60 mesh strainer (233 micron) is standard (MVP20 – MVP50). 100 mesh (150 micron) is optional. For 100 mesh, add (-S) to model number in the options.

POSITION 3 (P3)

Position 3 is the control valve function on MVP13 - MVP50. Most of the control valves offered on the standard Hansen control valves are available on the MVP line. MVP13 is available as a solenoid valve (HS8A) or a motorized control valve (MCXV). MVP20 - MVP50 are available as a solenoid valve (HS4A), two-step solenoid valve (HS4D), pressure regulator (HA4A) with most variations, and motorized control valve (MCV/MCR).

POSITION 4 (P4)

Position 4 can be several functions; shut-off valve (-1), hand expansion valve (-2), stop check/hand expansion valve (-3), stop check valve (-4), check valve (-5), or blank cover (-6). The MVP13 has a stainless steel removable seat. The MVP20 - 50 has a ductile iron removable spool insert. The MVP20 comes with a ¾" port in the spool when the configuration is (-2) thru (-5) and a 1¼" port in the spool when the configuration is (-1). The MVP25 and MVP32 come with a 1¼" port in the spool for configurations (-1) thru (-5). The MVP40 and MVP50 come with a 2" port in the spool for configurations (-1) thru (-5). When a (-6) configuration is specified there is no spool or seat installed. This is important for retrofitting to a different configuration as the spool or seat kit will have to be ordered along with the necessary bonnet kit and piston kit if applicable.

Identifying markings: a shut-off valve (-1) will be equipped with a black plastic seal cap or a zinc plated steel seal cap or a hand wheel, a hand expansion valve (-2) will be equipped with a yellow seal cap or a bar handle, a stop check/expansion valve (-3) will have a groove machined into the bonnet and a yellow seal cap or bar handle, a stop check valve (-4) will have a groove machined into the bonnet and a green seal cap or hand wheel, a check valve (-5) will have a flat bonnet and may have a drain plug, and a blank valve (-6) will have a raised hexagon.

MVP65 - MVP100

POSITION 1 (P1)

Position 1 can either be a shut-off valve or a blank cover with (-8) option. The shut-off valve size is 3" for the 2-1/2" and 3" port sizes (MVP65 and MVP80, and 4" for the 4" port sizes (MVP100).

POSITION 2 (P2)

Position 2 is the control valve function on MVP65 - MVP100. Most of the control valves offered on the standard Hansen control valves are available on the MVP line. MVP65 - MVP100 are available as a solenoid valve (HS4A), two-step solenoid valve (HS4D), pressure regulator (HA4A) with most variations, motorized control valve (MCV/MCR), and gas-powered two-step suction stop valve (HCK5D).

POSITION 3 (P3)

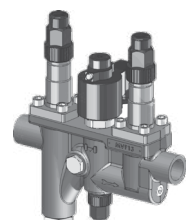
Position 3 can either be a shut-off valve or a blank cover with (-6) option. The shut-off valve size is 3" for the 2-1/2" and 3" port sizes (MVP65 and MVP80, and 4" for the 4" port sizes (MVP100).

SIDE PORT (G3) FOR DEFROST DRAIN

MVP65 - MVP100 contains a customizable side port feature that can be utilized for defrost condensate piping. The port is labelled "G3" and is accessible from either side of the body. Connection is sized for 1" SW or 1-1/2" BW on MVP65 - MVP80 and 1-1/2" SW or 2" BW on MVP100. Consult factory for more information.

MVP13-1 SOLENOID

Solenoid valves are used to control the on/off flow of liquid or vapor. Liquid applications include makeup to vessels and chillers or feed to evaporators. Hot gas supply for defrost, pilots for gas powered suction stop valves, and purge point valves are common vapor application.



MVP13-1

Solenoid Maximum Ratings Ammonia

Liquid, Receiver Pressure: 110 Tons (387 kW)
Recirculation, 4 to 1: 36 Tons (127 kW)
Hot Gas: 10 Tons (35 kW)
Suction: 5.0 Tons (18kW)

COMMON MVP20 - MVP50 VARIATIONS

MVP-1, MVP-1SD SOLENOID, TWO-STEP SOLENOID

Solenoid valves are used to control the on/off flow of liquid or vapor. Liquid applications include makeup to vessels and chillers or feed to evaporators. Hot gas supply for defrost is a common vapor application. Solenoids are also used for evaporator suction line control. The two-step solenoid design provides two opening positions soft opening/soft closing (10% rated flow) and full opening.

MVP-1A PRESSURE REGULATOR

This most common pressure regulator modulates to control evaporator pressure, condensing pressure, pressure in a vessel, or pressure in a portion of a system. It is frequently called an evaporator pressure regulator (EPR) or back pressure regulator. Opens on rising inlet pressure. Shown with M3W pilot.

MVP-1AS ELECTRIC SHUT-OFF

This control is commonly used for temperature control or defrost. Regulates at the set-for pressure when energized. When de-energized, the valve closes tight regardless of the pressure setting.

MVP-1AB ELECTRIC WIDE OPENING

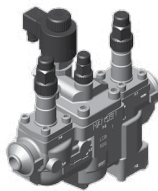
Commonly regulates for defrost or temperature, but opens wide for maximum cooling. Regulating at the set-for pressure when de-energized; regulator opens when energized.

MVP-1AD DUAL REGULATOR

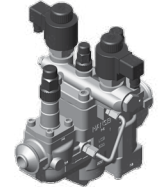
Regulates (evaporator) pressure at a setting when energized, and at a higher setting for defrost, temperature control, or pressure relief when de-energized.

MVP-1AL DIFFERENTIAL REGULATOR

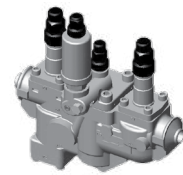
Commonly used as liquid pump relief, condenser-receiver pressure difference control, discharge pressure boosting for defrosting or heat recovery, and other similar applications. This control modulates to maintain the set-for difference between inlet and outlet pressure.



MVP-1



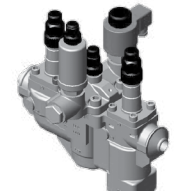
MVP-1SD



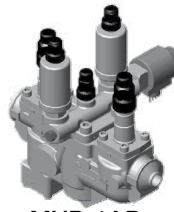
MVP-1A



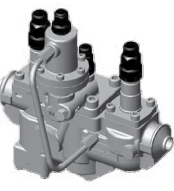
MVP-1AS



MVP-1AB



MVP-1AD



MVP-1AL

MVP-1AK, MVP-4AK RESEATING RELIEF REGULATOR

Used for defrost, high-to-low side relief, or non atmosphere relief to other parts of the system. This control opens when system upstream pressure is above the tagged and sealed set point pressure, and repeatedly reseats after operation.

MVP-1AO OUTLET PRESSURE REGULATOR

Controls outlet pressure by opening as downstream pressure falls below the set point. Used for hot gas to provide artificial refrigeration loading, for condenser and receiver pressure control by means of gas bypass, limiting hot gas pressure supply in defrosting evaporator in conjunction with liquid drain traps, or for compressor suction pressure limitation. Can be combined with electric shut-off, temperature-operated, dual, or wide-opening features.

MVP-1AP PNEUMATICALLY COMPENSATED REGULATOR

Commonly used for precise air or liquid temperature control via pneumatic controller. An air, vapor, or liquid pressure signal to the control module bonnet increases inlet pressure from the set-for pressure value at a 1:1 ratio.

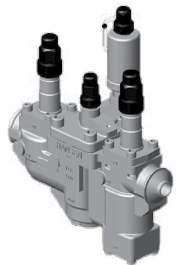
MVP-1AM, MVP-1AQ ELECTRIC MOTOR COMPENSATED REGULATOR

Commonly used for precise room temperature control or liquid chiller control. The controlling motor changes regulator pressure setting in accordance with a temperature controller.

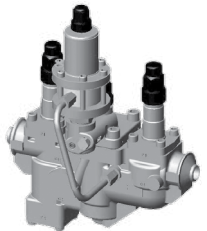
MVP-1MCV MOTORIZED CONTROL VALVE

The Motorized Control Valve is a direct motor actuated valve designed for operation in Dx, liquid makeup, temperature, pressure and level control applications for a wide variety of refrigerants.

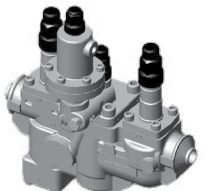
NOTE: Many other control functions can be achieved by combining the control modules in different arrangements. For example: a dual regulator with an electronic control module and secondary pressure relief pilot; i.e. MVP-1ADQ .



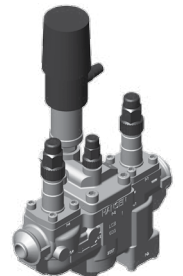
MVP-1AK



MVP-1AO



MVP-1AP



MVP-1AQ



MVP-MCV

* Refer to page 12 for additional options and MVP configurations.

COMMON MVP65 - MVP100 VARIATIONS

MVP-1

SOLENOID

Solenoid valves are used to control the on/off flow of liquid or vapor. Liquid applications include makeup to vessels and chillers or feed to evaporators. Hot gas supply for defrost is a common vapor application. Solenoids are also used for evaporator suction line control. The two-step solenoid design provides two opening positions soft opening/soft closing (10% rated flow) and full opening.



MVP-1

MVP-1A

PRESSURE REGULATOR

This most common pressure regulator modulates to control evaporator pressure, condensing pressure, pressure in a vessel, or pressure in a portion of a system. It is frequently called an evaporator pressure regulator (EPR) or back pressure regulator. Opens on rising inlet pressure. Shown with M3W pilot.



MVP-1A

MVP-1AS

ELECTRIC SHUT-OFF

This control is commonly used for temperature control or defrost. Regulates at the set-for pressure when energized. When de-energized, the valve closes tight regardless of the pressure setting.



MVP-1AS

MVP-1AB

ELECTRIC WIDE OPENING

Commonly regulates for defrost or temperature, but opens wide for maximum cooling. Regulating at the set-for pressure when de-energized; regulator opens when energized.



MVP-1AB

MVP-1AD

DUAL REGULATOR

Regulates (evaporator) pressure at a setting when energized, and at a higher setting for defrost, temperature control, or pressure relief when de-energized.



MVP-1AD

MVP-1AK

RESEATING RELIEF REGULATOR

Used for defrost, high-to-low side relief, or non atmosphere relief to other parts of the system. This control opens when system upstream pressure is above the tagged and sealed set point pressure, and repeatedly reseats after operation.

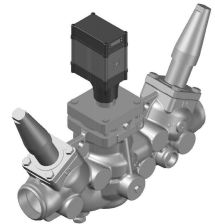


MVP-1AK

MVP-1MCV

MOTORIZED CONTROL VALVE

The Motorized Control Valve is a direct motor actuated valve designed for operation in Dx, liquid makeup, temperature, pressure and level control applications for a wide variety of refrigerants.



MVP-MCV

MVP-1HCK / MVP-8HCK

TWO-STEP SUCTION STOP VALVE

The suction stop valve remains normally open via a spring and require no pressure drop to operate. A single pilot solenoid valve is required to control a higher pressure refrigerant gas which closes these valves during defrosting. The 2-step piston has an internal, controlled bleed-down (equalize) feature which will not allow the main seat to open until the pressure across the valve is at a lower, safer pressure differential. Similar to Hansen's HCK5D.



MVP-1HCK

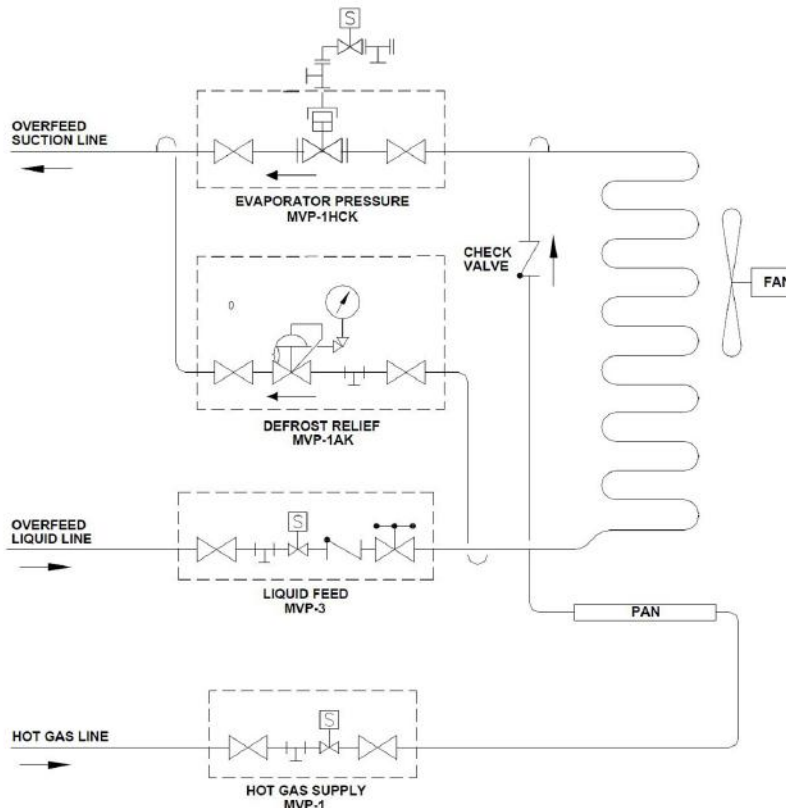


MVP-8HCK

EVAPORATOR VALVE SIZING – AMMONIA (TONS)

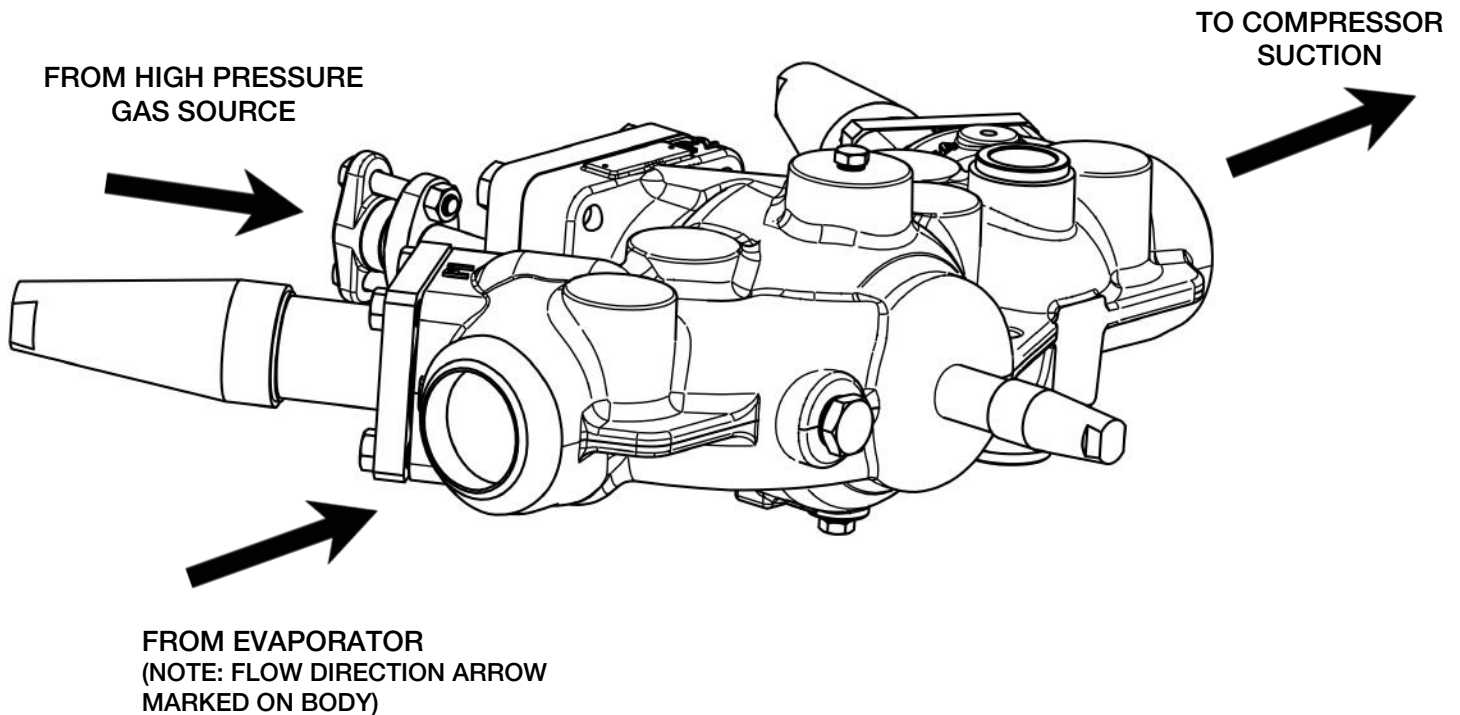
LINE	CONTROL VALVE PRESSURE DROP*	10		20		30		40		50		60		70		80		90		100	
HOT GAS	2	MVP13-2		MVP20-2		MVP25-2		MVP32-2		MVP40-2SD (Two-Step)					MVP50-2SD (Two-Step)						
DEFROST RELIEF	70 psig Set Point	MVP20-1AK 50%			MVP20-1AK		MVP25-1AK			MVP32-1AK			MVP40-1AK								
LIQUID 4:1 OVERFEED	2	MVP13-3				MVP 20-3				MVP25-3						MVP32-3					
SUCTION LINE +40°F (+5°C)	2	MVP20-1AS			MVP25-1AS		MVP32-1AS		MVP40-1AS					MVP50-1AS			MVP65-1AS				
	5	MVP20-1AS 50%		MVP20-1AS		MVP25-1AS			MVP32-1AS		MVP40-1AS										
	10	MVP20-1AS 25% 50%		MVP20-1AS		MVP25-1AS			MVP32-1AS			MVP40-1AS									
SUCTION LINE +20°F (-7°C)	2	MVP20-1AS		MVP25-1AS		MVP32-1AS		MVP40-1AS			MVP50-1AS			MVP65-1AS							
	5	MVP20-1AS			MVP25-1AS		MVP32-1AS		MVP40-1AS						MVP50-1AS						
	10	MVP20-1AS 50%		MVP20-1AS		MVP25-1AS			MVP32-1AS			MVP40-1AS									
SUCTION LINE 0°F (-18°C)	0.5	MVP65-1HCK										MVP80-1HCK				MVP100-1HCK					
	2	MVP20-1AS		MVP ____-1AS 25 32		MVP40-1AS			MVP50-1AS			MVP65-1AS				MVP80-1AS					
	5	MVP20-1AS		MVP25-1AS		MVP32-1AS		MVP40-1AS					MVP50-1AS			MVP65-1AS					
SUCTION LINE -20°F (-29°C)	0.5	MVP65-1HCK										MVP80-1HCK			MVP100-1HCK						
	2	MVP25-1AS		MVP ____-1AS 32 40				MVP50-1AS			MVP65-1AS				MVP80-1AS						
SUCTION LINE -40°F (-40°C)	0.25	MVP65-1HCK					MVP80-1HCK		MVP100-1HCK												
	0.5						MVP65-1HCK			MVP80-1HCK			MVP100-1HCK								
AMMONIA (kW)		35		70		105		141		176		211		246		281		316		352	

* Dry suction line conditions, 2 psid pressure drop across control valve in Position 3. Allow 2 to 3 times the control valve pressure drop for the entire valve. Hot Gas Defrost valve based on 86°F (30°C) condensing temperature. These capacities can be modified up or down depending on type of evaporator, temperature, mass, frost thickness, and defrosting time. For liquid overfeed conditions add 20% to the dry suction capacity to select valve size. Capacities are within 10% between -40°F (-40°C) and +40°F (5°C). Contact the factory for other conditions and refrigerants.



TYPICAL APPLICATION

*It is recommended that all valve configurations be installed upright, except the gas-powered suction stop (HCK) version has a pressure drop advantage if installed on side as shown below.



INSTALLATION

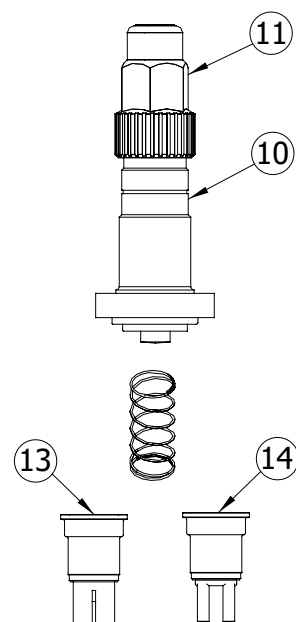
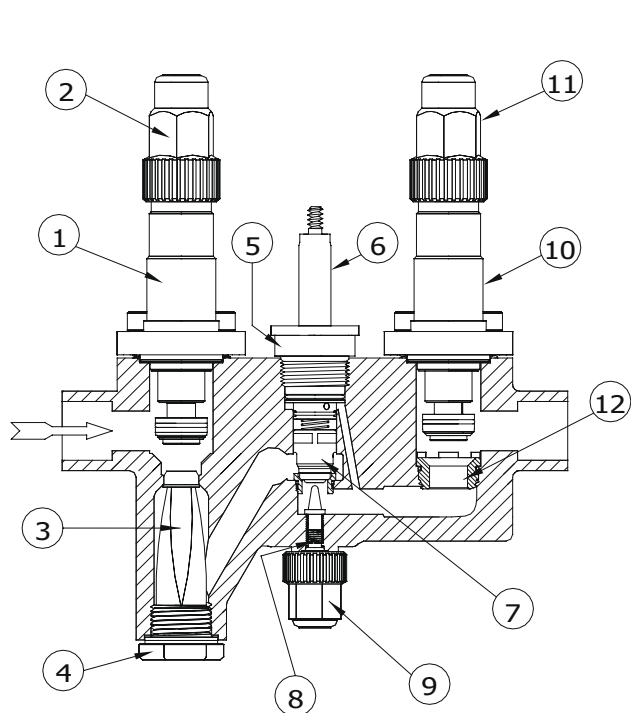
Protect the interior of the valve from dirt and moisture during storage and installation. Hansen MVP valves should be installed in horizontal lines with the arrow on the body pointed in the normal direction of flow with pilots and/or actuator upright. Install a check valve in position 4 if reverse flow is undesirable (MVP13 - MVP50 only).

Because of the many regulator pilot combinations, during installation of a large job, the regulator nameplates should be checked against piping drawings to guarantee proper function for each location. Where pilot solenoid control modules are used, the nameplate coil voltage should be checked before wiring. Pipe size, anchoring, valve rating, system design, and other precautionary factors should be taken into consideration to ensure “liquid hammer” will not occur when the valve opens or closes. Before putting valves into service, all pipe connections, valve seats, cover seals, and stem seals should be tested for leaks at pressure levels called for in appropriate codes.

Where it is necessary or standard practice to weld a valve into the line without shut-off valve bonnet removal, the stem should be opened several turns to prevent heat damage to the seat disc. Consider removing the check spring and piston assemblies in position 4 (MVP13 - MVP50 only) before welding to protect Teflon seat from welding heat and weld slag. Clean welding debris prior to operation. If the shut-off bonnets are removed for welding, the valve stems should be several turns open to prevent damage. Care should be taken to protect the Teflon seats when outside the valve body. Welds should be annealed as necessary in accordance with good practice. Painting of welds is recommended for corrosion protection.

MVP13 KIT LIST

1/2" (13mm)



POSITION 4

(-3) STOP CHECK/HEV & (-4) STOP CHECK

POSITION 1		
ITEM	DESCRIPTION	KIT NO
1	Bonnet Kit: MVP13 (1/2")	50-1094
2	Seal Cap Kit (Standard): MVP13 (1/2") (Black) Handwheel Kit (Optional) MVP13 (1/2")	50-1036 50-1005

POSITION 2		
ITEM	DESCRIPTION	KIT NO
3	Screen Assembly Kit: Standard (100 Mesh) MVP13 (1/2")	78-1001
4	Strainer Plug (1/4" NPT) (Optional)	75-0189

POSITION 3		
ITEM	DESCRIPTION	KIT NO
5	Bonnet Cartridge Kit: MVP13 (1/2") Solenoid	70-1001
6	Solenoid Tube/Plunger Kit: MVP13 (1/2") Solenoid	70-1059
7	Piston/Seat Ring Kit: MVP13 (1/2") Solenoid	70-1132
8	Stem Kit: MVP13 (1/2") Solenoid	70-1003
9	Seal Cap Kit: MVP13 (1/2") Solenoid (Black)	70-1075

POSITION 4		
ITEM	DESCRIPTION	KIT NO
10	Bonnet Kit: MVP13-1 (Shut-Off) (1/2") MVP13-2 (Hand Expansion) (1/2") MVP13-3 (Stop Check/HEV) & -4 (Stop Check) (1/2") MVP13-5 (Check) (1/2") MVP13-6 (Blank) (1/2")	50-1094 50-1104 75-1305 75-1306 75-1307
11	Seal Cap Kit (Standard): MVP13-1 (Shut-Off) (1/2") (Black) MVP13-2 (HEV) & -3 (Stop Check/HEV) (1/2") (Yellow) MVP13-4 (Stop Check) (1/2") (Green) Handwheel Kit (Optional): MVP13-1 (Shut-Off) & -4 (Stop Check) (1/2") Bar Handle Kit (Optional): MVP13-2 (Hand Expansion) & -3 (Stop Check/HEV)	50-1036 50-1049 50-1212 50-1005 50-1012
12	Seat Kit: MVP13 (1/2")	75-1302
13	Stop Check/Hand Expansion (-3) Piston Kit: MVP13-3 (Stop Check/HEV) (1/2")	75-1304
14	Stop Check (-4) & Check (-5) Piston Kit: MVP13-4 (Stop Check) & -5 (Check) (1/2")	75-1303
	HEV Turns Open Tag Kit	75-2735

SERVICE AND MAINTENANCE

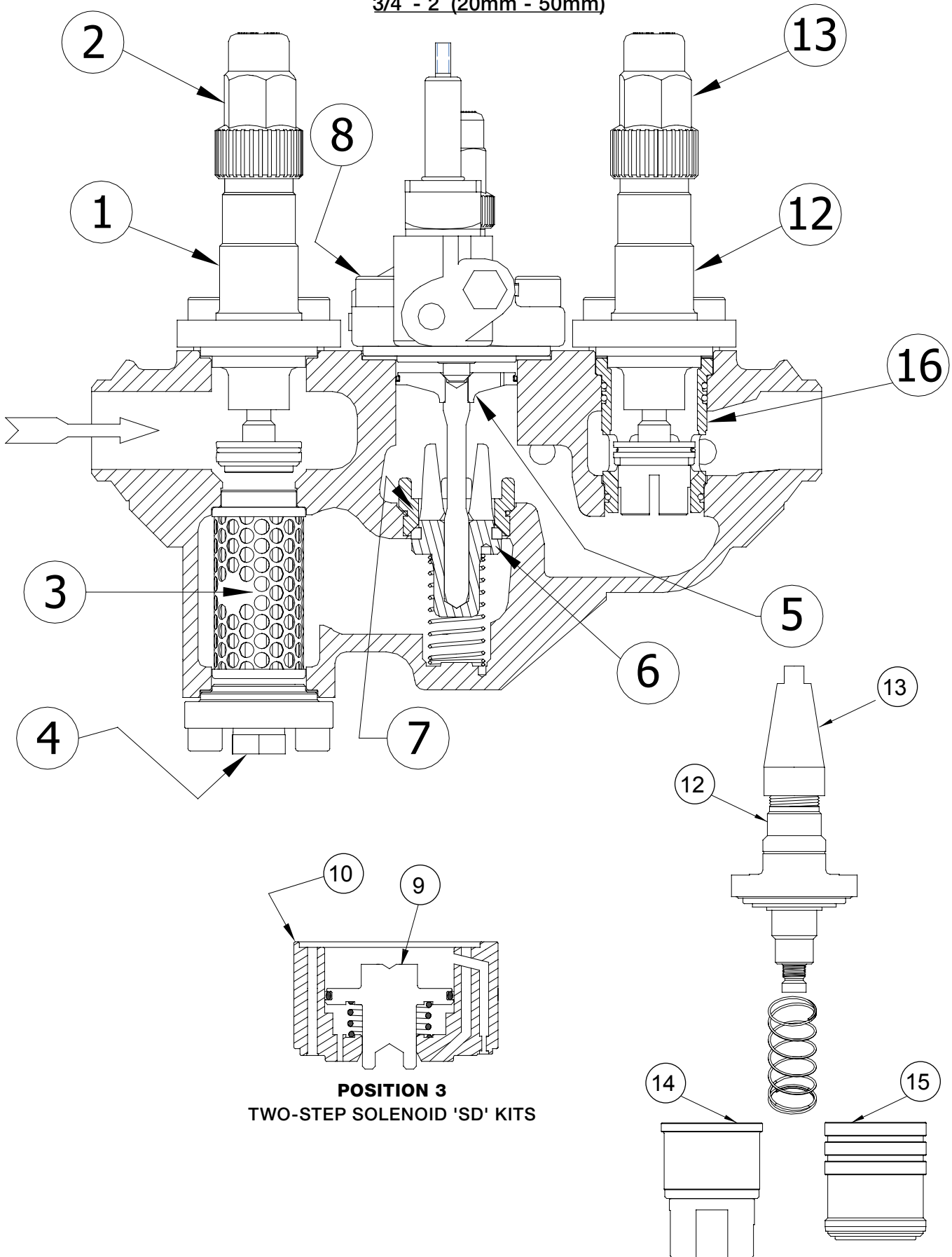
The solenoid, pulse width expansion, and hand expansion valves are designed to have the same capacity as the standard Hansen control valves. Service and maintenance instructions for the MVP13 valves can be found in the following Hansen documents:

- G209 Shut-Off Valves
- G510 Expansion Valve
- S119 HS8A Solenoid Valve
- T479 Strainers

The above documents also have detailed parts descriptions and service and troubleshooting tips.

MVP20 - MVP50 KIT LIST

3/4" - 2" (20mm - 50mm)



POSITION 3
TWO-STEP SOLENOID 'SD' KITS

POSITION 4
(-3) STOP CHECK/HEV & (-4) STOP CHECK

MVP20 - MVP50 KIT LIST

3/4" - 2" (20mm - 50mm)

POSITION 1		
ITEM	DESCRIPTION	KIT NO
1	Bonnet Kit: MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2")	50-1095 50-1024
2	Seal Cap Kit (Standard): MVP20 thru MVP32 (3/4"-1-1/4") (Black) MVP40 thru MVP50 (1-1/2"-2") (Steel) Handwheel Kit (Optional) MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2")	50-1036 50-1027 50-1005 50-1026

POSITION 2		
ITEM	DESCRIPTION	KIT NO
3	Strainer Kit: Standard (60 MESH) MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2") Optional (100 MESH) MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2")	78-1020 78-1005 78-1027 78-1025
4	Strainer Plug (1/2" NPT)	20-1408

POSITION 3		
ITEM	DESCRIPTION	KIT NO
5	Piston Kit: MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2")	75-1019 75-1025
6	V-Port/Seat Kit: MVP20 (3/4") MVP20 (3/4"-25%) MVP20 (3/4"-50%) MVP25 (1") MVP32 (1-1/4") MVP40 (1-1/2") MVP50 (2") V-Port/Seat Kit (AK & AO): MVP20 (3/4") MVP25 (1") MVP32 (1-1/4")	75-1020 75-1279 75-1280 75-1021 75-1022 75-1029 75-1030 75-1129 75-1130 75-1131
7	Seat Ring Kit: MVP20-25 (3/4"-1") MVP32 (1-1/4") MVP40 thru 50 (1-1/2"-2")	75-1276 75-1278 75-1287
8	Adapter Kit (1 Port): MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2") Adapter Kit (3 Port): MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2") Two-Step 'SD' Adapter Kit: MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2")	75-1047 75-1049 75-1048 75-1050 75-3237 75-3236
9	Two-Step 'SD' Upper Piston Kit: MVP20 thru MVP32 (3/4"-1-1/4") MVP40 thru MVP50 (1-1/2"-2")	70-1109 70-1110
10	Two-Step 'SD' Upper Housing Kit: MVP20 thru 32 (3/4"-1-1/4") MVP40 thru 50 (1-1/2"-2")	70-1140 70-1141

POSITION 4		
ITEM	DESCRIPTION	KIT NO
12	Bonnet Kit: MVP20-1 thru MVP32-1 (Shut-Off) (3/4"-1-1/4") MVP40-1 thru MVP50-1 (Shut-Off) (1-1/2"-2") MVP20-2 (Hand Expansion) (3/4") MVP25-2 (1") (Hand Expansion) MVP32-2 (Hand Expansion) (1-1/4") MVP40-2 (Hand Expansion) (1-1/2") MVP50-2 (Hand Expansion) (2") MVP20-3 thru MVP32-3 (Stop Check/HEV) (3/4"-1-1/4") MVP40-3 thru MVP50-3 (Stop Check/HEV) (1-1/2"-2") MVP20-4 thru MVP32-4 (Stop Check) (3/4"-1-1/4") MVP40-4 thru MVP50-4 (Stop Check) (1-1/2"-2") MVP20-5 & MVP32-5 (Check) (3/4"-1-1/4") MVP40-5 thru MVP50-5 (Check) (1-1/2"-2") MVP20-6 thru MVP32-6 (Blank) (3/4"-1-1/4") MVP40-6 thru MVP50-6 (Blank) (1-1/2"-2")	50-1095 50-1024 75-1248 50-1106 50-1107 50-1031 50-1032 75-1247 75-1252 75-1247 75-1252 50-1215 50-1216 50-1217 50-1218
13	Seal Cap Kit (Standard): MVP20-1 thru MVP32-1 (Shut-Off) (3/4"-1-1/4") (Black) MVP40-1 thru MVP50-1 (Shut-Off) (1-1/2"-2") (Steel) MVP20-2 thru MVP32-2 (HEV) (3/4"-1-1/4") (Yellow) MVP40-2 thru MVP50-2 (HEV) (1-1/2"-2") (Yellow) MVP20-3 thru MVP32-3 (Stop Ck/HEV) (3/4"-1-1/4") (Yellow) MVP40-3 thru MVP50-3 (Stop Ck/HEV) (1-1/2"-2") (Yellow) MVP20-4 thru MVP32-4 (Stop Check) (3/4"-1-1/4") (Green) MVP40-4 thru MVP50-4 (Stop Check) (1-1/2"-2") (Light Grn) Handwheel Kit (Optional): MVP20-1 thru MVP32-1 (Shut-Off) (3/4"-1-1/4") MVP40-1 thru MVP50-1 (Shut-Off) (1-1/2"-2") Bar Handle Kit (Optional): MVP20-2 thru MVP32-2 (Hand Expansion) (3/4"-1-1/4") MVP40-2 thru MVP50-2 (Hand Expansion) (1-1/2"-2") MVP20-3 thru MVP32-3 (Stop Check/HEV) (3/4"-1-1/4") MVP40-3 thru MVP50-3 (Stop Check/HEV) (1-1/2"-2")	50-1036 50-1027 50-1049 50-1048 50-1049 50-1048 50-1212 50-1213 50-1005 50-1026 50-1012 50-1039 50-1012 50-1039
14	Stop Check/Hand Expansion (-3) Piston Kit: MVP20-3 (3/4") MVP25-3 (1") MVP32-3 (1-1/4") MVP40-3 (1-1/2") MVP50-3 (2")	75-1257 75-1258 75-1259 75-1260 75-1261
15	Stop Check (-4) & Check (-5) Piston Kit: MVP20-4 & -5 (3/4") MVP25-4 & -5 (1") MVP32-4 & -5 (1-1/4") MVP40-4 & -5 (1-1/2") MVP50-4 & -5 (2")	75-1262 75-1263 75-1264 75-1265 75-1266
16	Spool Kit: Shut-Off (-1) MVP20-1 thru MVP32-1 (3/4"-1-1/4") MVP40-1 thru MVP50-1 (1-1/2"-2") Hand Expansion (-2), Stop Check/HEV (-3), Stop Check (-4) & Check (-5) MVP20-2, -3, -4, & -5 (3/4") MVP25-2, -3, -4 & -5 thru MVP32-2, -3, -4 & -5 (1"-1-1/4") MVP40-2, -3, -4 & -5 thru MVP50-2, -3, -4 & -5 (1-1/2"-2")	75-3246 75-3247 75-3245 75-3246 75-3247
HEV Turns Open Tag Kit		75-2735

SERVICE AND MAINTENANCE

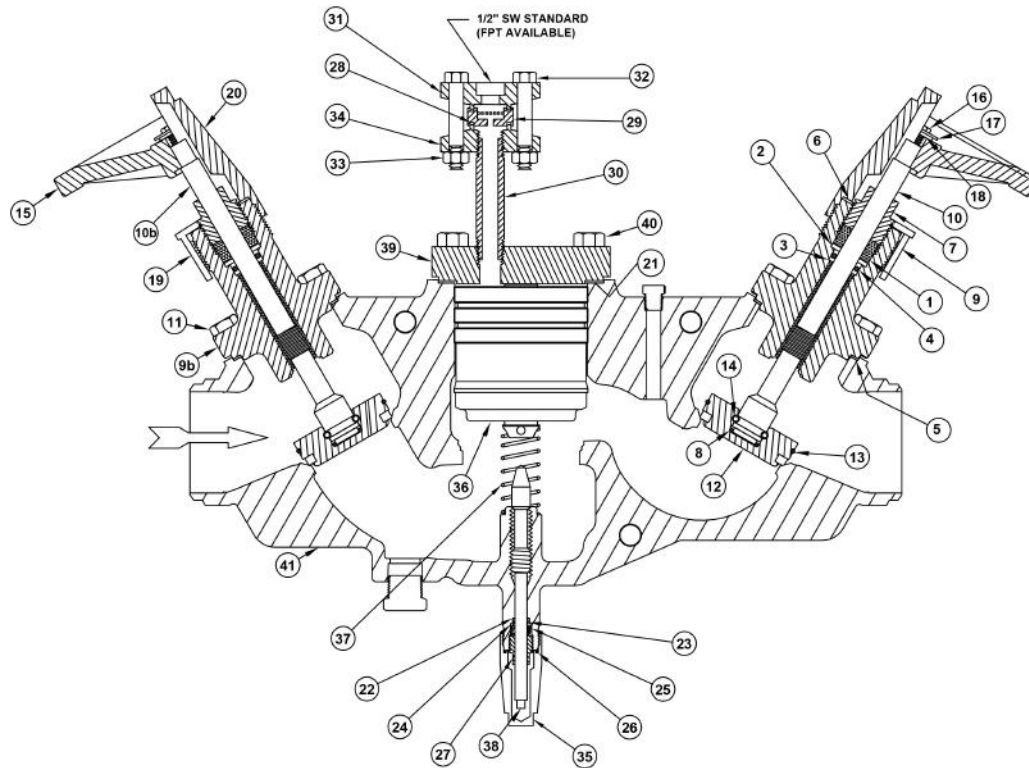
The solenoid, pressure regulator, and hand expansion valves are designed to have the same capacity as the standard Hansen control valves. Service and maintenance instructions for the MVP 20-50 valves can be found in the following Hansen documents:

- G209 Shut-Off Valves
- R429 HA4A Modular Pressure Regulators
- S429 HS4A Solenoid Valve
- S439 HS4D Two-Step Solenoid Valves
- G510 Expansion Valve

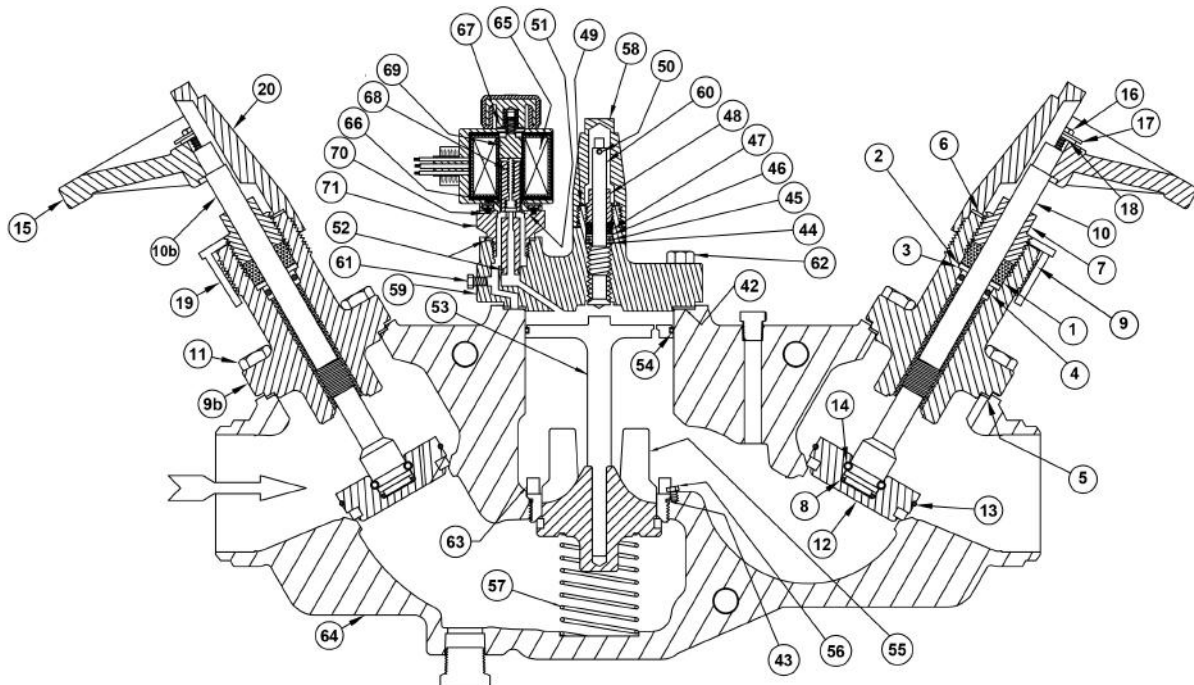
The above documents also have detailed parts descriptions and service and troubleshooting tips.

MVP65 - MVP100 KIT LIST

2-1/2" - 4" (65mm - 100mm)



MVP W/ SUCTION STOP



MVP W/ SOLENOID (COVER SHOWN ROTATED FOR CLARITY)

SERVICE AND MAINTENANCE

The solenoid, pressure regulator, and hand expansion valves are designed to have the same capacity as the standard Hansen control valves. Service and maintenance instructions for the MVP 65-100 valves can be found in the following Hansen documents:

- G209 Shut-Off Valves
- R429 HA4A Modular Pressure Regulators
- S429 HS4A Solenoid Valve
- S439 HS4D Two-Step Solenoid Valves
- C429 Gas Powered 2-Step Suction Stop Valve

The above documents also have detailed parts descriptions and service and troubleshooting tips.

MVP65 - MVP100 KIT LIST
2-1/2" - 4" (65mm - 100mm)

SHUT-OFF (POSITIONS 1 AND 3)

ITEM	DESCRIPTION	QTY	PART NO
	Gasket Kit 2-1/2", 3" (65mm, 80mm)		50-1043
	Gasket Kit Ext Neck 2-1/2", 3" (65mm, 80mm)		50-1166
	Gasket Kit 4" (100mm)		50-1065
	Gasket Kit Ext Neck 4" (100mm)		50-1203
	<i>Above kits consist of:</i>		
1	Stem Packing	1	
2	Stem Washer	1	
3	Back-up Washer	1	
4	Stem O-Ring	1	
5	Bonnet Gasket	1	
6	Seal Cap Gasket	1	
7	Packing Nut	1	
8	O-Ring, Anti-Spin	1	
	Bonnet Assembly Kit 2-1/2", 3" (65mm, 80mm)		50-1044ACT
	Bonnet Assembly Ext Neck Kit 2-1/2", 3" (65mm, 80mm)		50-1167ACT
	Bonnet Assembly Kit 4"		50-1066ACT
	Bonnet Assembly Ext Neck Kit 4" (100mm)		50-1184ACT
	<i>Above kits consist of:</i>		
9	Bonnet	1	
9b	Bonnet Ext Neck	1	
10	Stem	1	
10b	Stem Ext Neck	1	
11	Bonnet Cap Screw	4	
	Gasket Kit	1	
12	Disc Assembly Kit	1	
13	Ball Retainer	1	
14	Balls	1	
	Handwheel Kit 2-1/2", 3", 4" (65mm, 80mm, 100mm)		50-1037ACT
	<i>Above kits consist of:</i>		
15	Handwheel	1	
16	Screw	1	
17	Nameplate	1	
18	Support Washer	1	
19	Bonnet Thread Cap	1	
	Seal Cap Kit 2-1/2", 3", 4" (65mm, 80mm, 100mm)		50-1038ACT
	<i>Above kits consist of:</i>		
6	Seal Cap Gasket	1	
20	Seal Cap	1	

SUCTION STOP (POSITION 2)

ITEM	DESCRIPTION	QTY	PART NO
	3" Gasket Kit consists of:		75-1221
	4" Gasket Kit consists of:		75-1222
21	Cover Gasket	1	
22	Back-up washer	1	
23	Stem O-ring	1	
24	Stem washer	1	
25	Packing	1	
26	Packing Nut	1	
27	Seal Cap O-ring/Gasket	1	
28	Disc Strainer Gasket	2	
	Disc Strainer Kit consists of:		75-1437ACT
29	Strainer Assy	1	
28	Disc Strainer Gasket	2	
30	Nipple	1	
31	1/2" SW Flange	1	
32	Disc Strainer Flange Bolt	2	
33	Disc Strainer Flange Nut	2	
34	1/2" FPT Flange	1	
	2-1/2"-3" Seal Cap Kit consists of:		75-1014ACT
	4" Seal Cap Kit consists of: Seal		50-1027ACT
35	Seal Cap	1	
27	Seal Cap O-ring/Gasket	1	
	2-1/2"-3" Piston/Seat Kit consists of:		75-1218
	4" Piston/Seat Kit consists of:		75-1219
36	Piston/Seat	1	
37	Spring	1	
21	Cover Gasket	1	
28	Disc Strainer Gasket	2	
	2-1/2"-3" Stem Kit		75-1012
	4" Stem Kit		75-1013
39	Cover	1	
40	Cover Hex Screws	1	
41	Body	1	

SOLENOID / REGULATOR (POSITION 2)

ITEM	DESCRIPTION	QTY	PART NO
	Gasket Kit 2-1/2"-3" (65mm, 80mm)		75-1041
	Gasket Kit 4" (100mm)		75-1042
	<i>Above kits consist of:</i>		
42	Adapter Gasket	1	
43	Seat Seal O-ring	1	
44	Back-up Washer	1	
45	Stem O-ring	1	
46	Stem Washer	1	
47	Stem Packing	1	
48	Packing Nut	1	
49	Seal Cap O-ring/Gasket	1	
50	Stem Pin	2	
51	Solenoid Tube O-ring	1	
52	Port Gasket/O-ring kit	3	
	Piston Kit 2-1/2", 3" (65mm, 80mm)		75-1027
	Piston Kit 4" (100mm)		75-1028
	<i>Above kits consist of:</i>		
53	Piston	1	
54	Piston Seal	1	
42	Adapter Gasket	1	
	V-port Kit 2-1/2", 3" (65mm-80mm)		75-1032
	V-port Kit 4" (100mm)		75-1033
	<i>Above kits consist of:</i>		
55	V-port	1	
42	Adapter Gasket	1	
43	Seat Seal O-ring	1	
56	Set Screw	1	
57	Closing Spring	1	
	Seal Cap Kit 2-1/2", 3" (65mm, 80mm)		70-1042ACT
	Seal Cap Kit 4" (100mm)		70-1015ACT
	<i>Above kits consist of:</i>		
58	Seal Cap	1	
49	Seal Cap O-ring/Gasket	1	
	Adapter Kit 3" (1-port)		70-1051ACT
	Adapter Kit 3" (3-port)		70-1052ACT
	Adapter Kit 4" (1-port)		70-1053ACT
	Adapter Kit 4" (3-port)		70-1114ACT
	<i>Consists of:</i>		
59	Adapter	1	
42	Adapter Gasket	1	
44	Back-up Washer	1	
45	Stem O-ring	1	
46	Stem Washer	1	
47	Stem Packing	1	
48	Packing Nut	1	
49	Seal Cap O-ring/Gasket	1	
50	Stem Pin	1	
60	Manual Open Stem	1	
58	Seal Cap	1	
61	Gauge Port Plug (1/4" NPT)	1	
62	Adapter Hex Screws (1/2"-13 x 1-1/2")	4	
	Seat Ring Kit 3" (80mm)	1	75-1438
	Seat Ring Kit 4" (100mm)	1	75-1439
64	Body	1	

SOLENOID

ITEM	DESCRIPTION	QTY	PART NO
	Coil Kit (115V), 1/2" Fitting, 18" Leads		75-1085
	Coil Kit (208/230V), 1/2" Fitting, 18" Leads		75-1086
	Coil Kit (24 VAC), 1/2" Fitting, 18" Leads Coil Kit (Other Voltage/Connections)		75-1087
65	Bare Coil		FACTORY
66	Coil O-ring		
67	Coil Knob		
	Solenoid Tube/Plunger Kit		75-1059
	<i>Consists of:</i>		
66	Coil O-ring	1	
67	Coil Knob	1	
68	Plunger	1	
69	Solenoid Tube	1	
51	Solenoid Tube O-ring	1	
70	Tube Screws	4	
71	Solenoid Control Module (MS)		70-0302ACT

ORDERING INFORMATION

SAMPLE MODEL #: MVP 40 - 1 AD - ACT 2"SW

SIZE (PORT)

CONNECTION SIZE & STYLE

CONFIGURATION

OPTIONS (STANDARD ON MVP65-100)

BLANK=SOLENOID VALVE; FOR REGULATORS SEE PAGES 6-7

MVP POSITION CONFIGURATIONS				
MVP CONFIGURATION	POSITION 1	POSITION 2	POSITION 3	POSITION 4
1 (MVP13-50)	SHUT-OFF	STRAINER	CONTROL VALVE	SHUT-OFF
1 (MVP65-100)	SHUT-OFF	CONTROL VALVE	SHUT-OFF	N/A
2 (MVP13-50)	SHUT-OFF	STRAINER	CONTROL VALVE	HAND EXPANSION
3 (MVP13-50)	SHUT-OFF	STRAINER	CONTROL VALVE	STOP-CHECK/ HAND EXPANSION
4 (MVP13-50)	SHUT-OFF	STRAINER	CONTROL VALVE	STOP-CHECK
5 (MVP13-50)	SHUT-OFF	STRAINER	CONTROL VALVE	CHECK
6 (MVP13-50)	SHUT-OFF	STRAINER	CONTROL VALVE	BLANK COVER
7 (MVP13-50)	SHUT-OFF	STRAINER	CONTROL VALVE	MOTORIZED CONTROL VALVE
8 (MVP65-100)	BLANK COVER	CONTROL VALVE	SHUT-OFF	N/A

To Order: Specify MVP valve station port size, configuration (1 thru 7) and connection size and style (SW/BW/ODS). Specify control valve configuration (solenoid/pressure regulator/motorized), coil voltage and connection (lead or DIN) range and options if required. For Pressure Regulator Variations, see page 5. Unless specified, Solenoid will have standard coil with 18" leads and 1/2" fitting, 115V; Pressure Regulators. Specify pressure range. Approximate weight: MVP13, 16 lbs (7 kg); MVP20 - MVP32, 35 lbs (16 kg); MVP40 - MVP50, 75 lbs (34 kg); MVP65 - MVP80, 113 lbs (51 Kg); MVP100, 205 lbs (93 Kg).

Ordering Example: 1 1/2" Port Dual Pressure Regulator, Stop Valve in Position 4, 2" SW Connection, Zinc and Green Paint, 115V Leaded Coil, Range A.

POSITION 1

Position 1 is always a shut-off valve on MVP13 - MVP50. The shut-off valve size is 3/4" for 1/2" port sizes (MVP13), 1 1/4" for the 3/4" thru 1 1/4" port sizes (MVP20 - MVP32), 2" for the 1 1/2" and 2" port sizes (MVP40 and MVP50), 3" for the 2 1/2" and 3" port sizes (MVP65 - MVP80), and 4" for the 4" port size (MVP100). A blank cover option is also available for MVP65 - MVP100.

POSITION 2

Position 2 is the strainer for MVP13 - MVP50. 100 mesh (150 micron) strainer is standard for MVP13. 60 mesh strainer (233 micron) is standard (MVP20 - MVP50). 100 mesh (150 micron) is optional. For 100 mesh, add (-S) to model number. Position 2 for MVP65 - MVP100 is the control valve function.

POSITION 3

Position 3 is the control valve function for MVP13 - MVP50. MVP13 is available only as a solenoid valve (HS8A). MVP20 - MVP50 are available as a solenoid valve (HS4A), a two-step solenoid valve (HS4D), and a pressure regulator (HA4A) with most variations. MVP20 and MVP50 are available as a Motorized Control Valve. Position 3 for MVP65 - MVP100 is the shut-off function or blank cover.

POSITION 4 (MVP13 - MVP50)

Position 4 can be several functions; shut-off valve (-1), hand expansion valve (-2), stop check/hand expansion valve (-3), stop check valve (-4), and check valve (-5). The MVP13 has a stainless steel removable seat. The MVP20 - 50 has a ductile iron removable spool insert. The MVP20 comes with a 3/4" port in the spool when the configuration is (-2) thru (-5) and a 1 1/4" port in the spool when the configuration is (-1). The MVP25 and MVP32 come with a 1 1/4" port in the spool for configurations (-1) thru (-5). The MVP40 and MVP50 come with a 2" port in the spool for configurations (-1) thru (-5). When a (-6) configuration is specified there is no spool or seat installed. Position 4 not available for MVP65 - MVP100.

MODEL NO.	PORT SIZE IN (MM)	CONNECTION STYLES AND SIZES				
		SW		BW		ODS
		STD	ALSO	STD	ALSO	STD
MVP13*	1/2" (20)	1/2"	3/4"	1/2"	3/4" 1"	5/8"
MVP20	3/4" (20)	3/4"	1" 1 1/4"	3/4"	1" 1 1/4"	7/8"
MVP25	1" (25)	1"	1 1/4"	1"	1 1/4" 1 1/2"	1 1/8"
MVP32	1 1/4" (32)	1 1/4"	-	1 1/4"	1 1/2"	1 3/8"
MVP40	1 1/2" (40)	1 1/2"	2"	1 1/2"	2", 2 1/2"	1 5/8"
MVP50	2" (50)	2"	-	2"	2 1/2"	2 5/8"
MVP65	2 1/2" (65)	-	-	2 1/2"	-	-
MVP80	3" (80)	-	-	3"	-	-
MVP100	4" (100)	-	-	4"	-	-

*Also available as 1/2" and 3/4" NPT

MVP OPTIONS
MCV (Motorized Control Valve)
NO (Normally Open)
E (Ext Neck with SS Trim on SOV) (-1,-2,-5 & -6 only)
H (Handwheels and Bar Handle on HEV)
S (100 Mesh Strainer Basket) (MVP20-MVP50 only)
X (Explosion Proof Solenoid Coil) (MVP20-MVP100 only)
D (Drain Plug) (MVP13 only)
SD (Two Step Solenoid) (MVP20-MVP100 only)

CAUTION

These instructions must be completely read and understood before selecting, using or servicing Hansen valves and electronics. Only knowledgeable, trained refrigeration mechanics should install, operate, or service. Stated temperature and pressure limits should not be exceeded. Bonnets, solenoid tubes, etc. should not be removed from valves unless system has been evacuated to zero pressure. Install a service valve to facilitate pump out of the MVP valve. See also Safety Precautions supplied with product.

WARRANTY

All Hansen products, except electronics, are guaranteed against defective materials or workmanship for one year F.O.B. factory. Electronics are guaranteed against defective materials or workmanship for 90 days F.O.B. factory. No consequential damages or field labor is included.



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