



HAM-LET SURFACE MOUNT SERIES



- HMS** - STANDARD SERIES
- HMSC** - COMPACT SERIES
- HCS** - HIGH LIFE CYCLE SERIES
- 2LN** - HYBRID VALVE



HMS SERIES STANDARD SERIES

The Ultra Clean Valves Series offer a surface mount body design. The surface mount design complies with SEMI PR 3.1 for 1.125" and 1.5" C-seal. HMS Series is manufactured according to UHP specifications of SEMI F-20 with manual and pneumatic operating mechanisms.



UCV SPECIFICATIONS

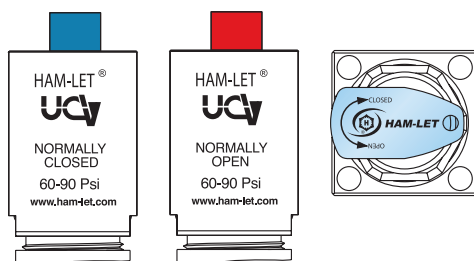
Structure	Direct-seal, metal-diaphragm valve without seal packing, manually and pneumatically operated
Design Pressure	Vacuum to 1MPa (150 psi)
Burst Pressure	31MPa (4500 psi)
Proof Pressure	1.5MPa (225 psi)
Operating Temperature: Standard	14 to 140°F, -10 to 60°C (PCTFE Seat)
Available	14 to 302°F, -10 to 150°C (Polyimide Seat)
Leakage: Inboard Leakage	$\leq 3 \times 10^{-11}$ atm cc He/sec
Across the seat	$\leq 1 \times 10^{-9}$ atm cc He/sec
Particle	No particles detected above 0.1µm.
CV value	0.3 – for 1/4", 0.7 – for 1/2"
Surface Finish Ra (Ave)-Standard	5µin
Actuator Air Supply (Pneumatic)	60-90 psig , 4 - 6 bar
Air Connection (Pneumatic)	1/8" tube fitting with 10-32 UNF thread

STRUCTURE

Item No.	Part No.	Material
1	Body	Stainless steel, 316L Var or Vim/Var ⁽¹⁾
2	Seat	PCTFE, Polyimide
3	Seat Holder	Stainless steel, 316L Var or Vim/Var ⁽¹⁾
4	Diaphragm	Co-Cr-Ni Alloy
5	Actuation Device	Manual A6061T6 Pneumatic A6061T6

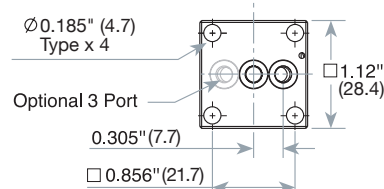
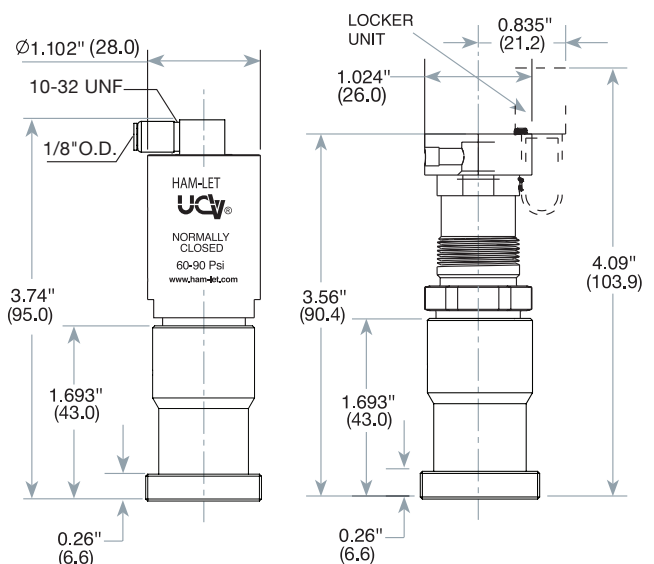
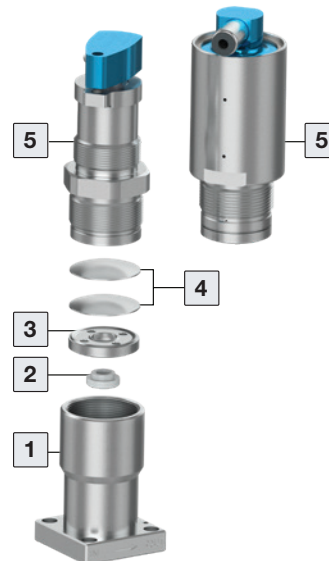
⁽¹⁾Per SEMI F20-0305

ACTUATION DEVICE - MARKING



Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.



- The dimensions apply to pneumatic and manual valves
- Dimensions for reference only and are subject to change

HMSC COMPACT SERIES

The Ultra-Clean Valve Series offers a surface mount body design. The surface mount design complies with SEMI PR 3.1 for 1.125" C-seal. This valve is a low-profile body design with an Integral Safety Lockout Tag-out (ISLT®) handle.

UCV SPECIFICATIONS

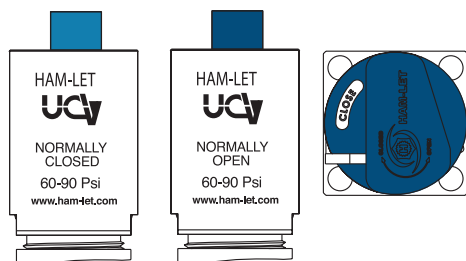
Structure	Direct-seal, metal-diaphragm valve without seal packing, manually and pneumatically operated
Design Pressure	Vacuum to 1MPa (150 psi)
Burst Pressure	31MPa (4500 psi)
Proof Pressure	1.5MPa (225 psi)
Operating Temperature: Standard	14 to 140°F, -10 to 60°C (PCTFE Seat)
Available	14 to 302°F, -10 to 150°C *(Polyimide Seat)
Leakage: Inboard Leakage	$\leq 3 \times 10^{-11}$ atm cc He/sec
Across the seat	$\leq 1 \times 10^{-9}$ atm cc He/sec
Particle	No particles detected above 0.1µm.
CV value	0.3
Surface Finish Ra (Ave)-Standard	5µin
Actuator Air Supply (Pneumatic)	60-90 psig , 4 - 6 bar
Air Connection (Pneumatic)	1/8" tube fitting with 10-32 UNF thread

STRUCTURE

Item No.	Part No.	Material
1	Body	Stainless steel, 316L Var or Vim/Var ⁽¹⁾
2	Seat	PCTFE, Polyimide
3	Diaphragm	Co-Cr-Ni Alloy
4	Act. Button	304 Stainless steel
5	Act. Button Holder	Stainless steel, ASTM 630 H900
6	Actuation Device	Manual A6061T6 Pneumatic A6061T6

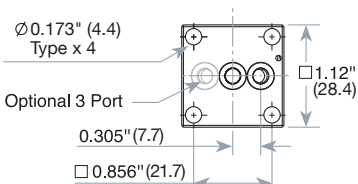
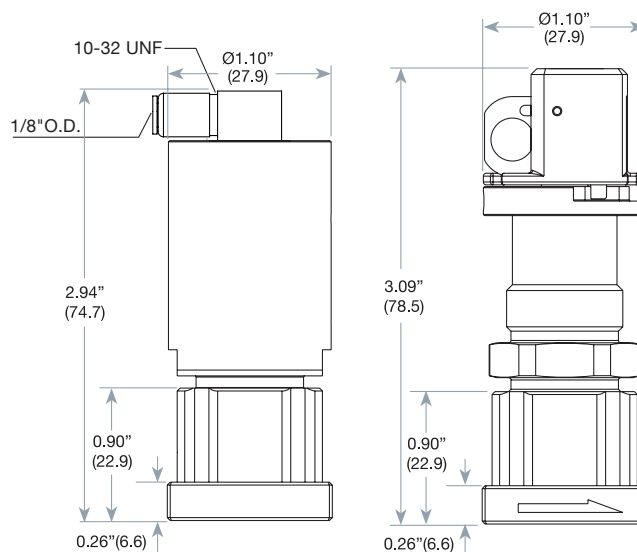
⁽¹⁾ Per SEMI F20-0305

ACTUATION DEVICE - MARKING



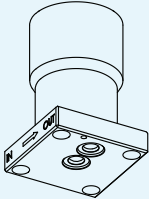
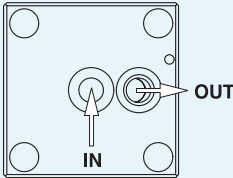
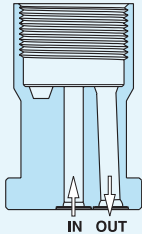
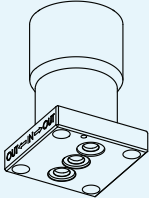
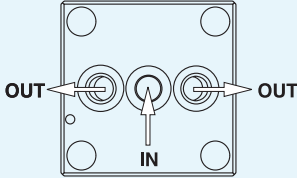
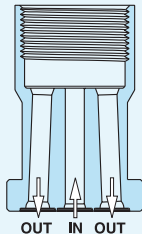
Warning!

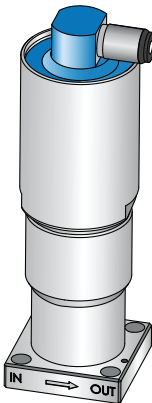
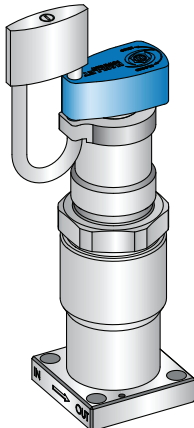
The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.



- The dimensions apply to pneumatic and manual valves
- Dimensions for reference only and are subject to change

HMSC
COMPACT SERIES

TWO STAGES FOR ORDERING SURFACE-MOUNT VALVES A B			
STAGE A VALVE TYPE			
	Flow Direction Body View	Schematic Flow Chart	Flow Direction
HMS(C)20 Two Port Valve			
HMS(C)30 Three Port Valve			

STAGE B ACTUATION DEVICE*						
Actuation Type	Actuation Mode	Description		Actuation Type	Actuation Mode	Description
Pneumatic	C	Normally Closed 150 psi Normally Opened 150 psi		Manual	LD	Oval Handle 1/4 turn 150 psi with Locking Device
						
		* Blue Actuation Cap indicates Normally Closed. ** Red Actuation Cap indicates Normally Opened.				* The Actuation Device for the manual valve does not include: locking device or locker unit as standard.

ORDERING INFORMATION - HMS & HMSC

Valve Description Example:

Stage

Valve
Description
Example:

HM		S	30	-	4	V	K	LQ	-	LD
Valve Series		Body Size		Seat Material						
S - UCV Surface Mount Valves		4 - 1/4" (Modular 1.125 inch)		K - PCTFE						
SC - Compact UCV Surface Mount Valves		8 - 1/2" (Modular 1.5 inch)		S* - Polyimide						
				K Standard, *Available. * Body 1/2" only with K						
Valve Type		Body Raw Material		Actuation Device		Option				
20 - Two Port Valve		V - SST316L Var or Vim/Var ⁽¹⁾		C - Air Operated N.C. 150 psi		LD - Locking Device				
30 - Three Port Valve				LO - Air Operated N.O. 150 psi		ISLT - LOTO Device*				
				LQ - Oval Handle 1/4 turn 150 psi		LS - Limit Switch				

* Standart for HMSC LQ handle

ORDERING EXAMPLES

Description	HMS30 - 4VSLQ -LD		HMS20 - 4VKC	
Number of ports	30	Surface Mounted Valve - Three Port	20	Surface Mounted Valve - Two Port
Body Size	4	1/4" (Modular 1.125 inch)	4	1/4" (Modular 1.125 inch)
Body Material	V	SST316L Var or Vim/Var ⁽¹⁾	V	SST316L Var or Vim/Var ⁽¹⁾
Seat Material	S	Polyimide	K	PCTFE
Actuation device	LQ	Oval Handle 1/4 turn 150 psi	C	Air Operated N.C. 150 psi
Features	LD	Locking Device		

⁽¹⁾ Per SEMI F20-0305

HCS SERIES HIGH LIFE CYCLE SERIES

The Ultra-Clean Valves Series offers a surface mount body design.

The surface mount design complies with SEMI F86 and F87 for 1.125" 2-port and 3-port C-Seal components.

Low-profile design with a minimum dead volume.

The HCS series dedicate for high reliability through its ULTRAHIGH cycle life.



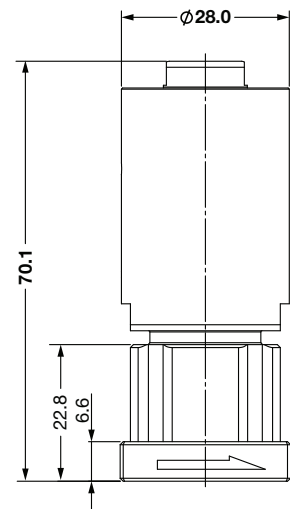
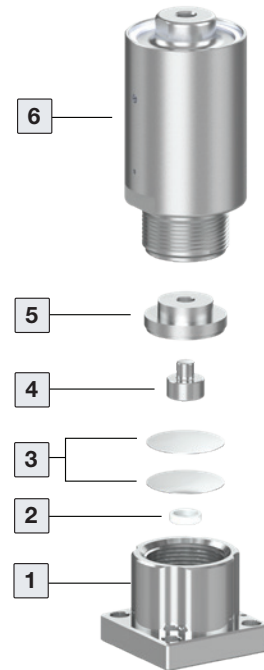
UCV SPECIFICATIONS

Structure	Direct-seal, metal-diaphragm valve without seal packing, manually and pneumatically operated
Design Pressure	Vacuum to 150 psi (10.3 Bar)
Burst Pressure	4500 psi (310.2 Bar)
Proof Pressure	225 psi (15.5 Bar)
Operating Temperature	-10 to 80°C
Leakage: Inboard Leakage	$\leq 3 \times 10^{-11}$ atm cc He/sec
Across the seat	$\leq 1 \times 10^{-9}$ atm cc He/sec
Particle	No particles detected above 0.1µm.
CV value	0.3
Surface Finish Ra (Ave)-Standard	5µin
Actuator Air Supply (Pneumatic)	4 - 6 Bar
Air Connection (Pneumatic)	Thread M5

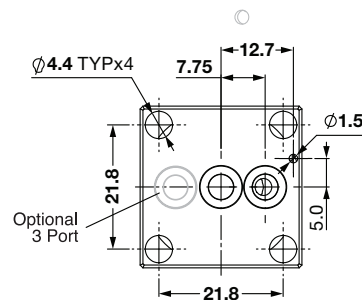
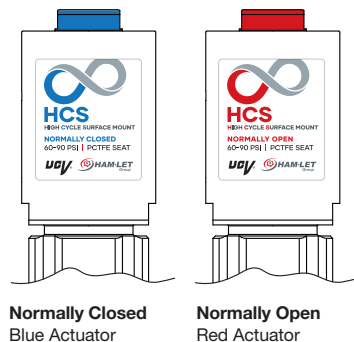
STRUCTURE

Item No.	Part No.	Material
1	Body	Stainless steel, 316L Var or Vin/Var ⁽¹⁾
2	Seat	PCTFE
3	Diaphragm	Co-Cr-Ni Alloy
4	Act. Button	304 Stainless steel
5	Act. Button Holder	Stainless steel, ASTM 630 H900
6	Actuation Device	Pneumatic

⁽¹⁾ Per SEMI F20-0305



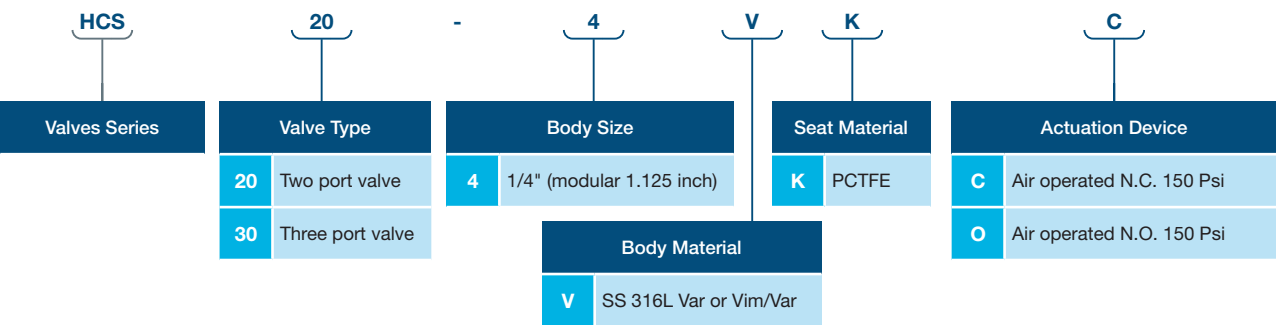
ACTUATION DEVICE - MARKING



The dimensions apply to pneumatic and manual valves.
Dimensions are for reference only and are subject to change.

Warning! The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

ORDERING INFORMATION - HCS SERIES



2LN SERIES (HYBRID) HYBRID VALVE

Metal Diaphragm Valves

Surface-mount models from the Ultra-Clean Valve specifications are ready for SEMI PR 3.1, 1.125" C seal connections.

These valves implement Cv 0.3 for their compact designs.



VALVE DIMENSIONS

Part Number/ep	Size	End Connection	A		B		C		D		E		F		G		H		J	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2LNS4C-CM2-HB	1/4	1.125"	0.89	22.8	4.4	111.0	0.25	6.6	1.12	28.4	0.30	7.75	0.50	12.7	0.19	5	0.85	21.74	0.17	4.4

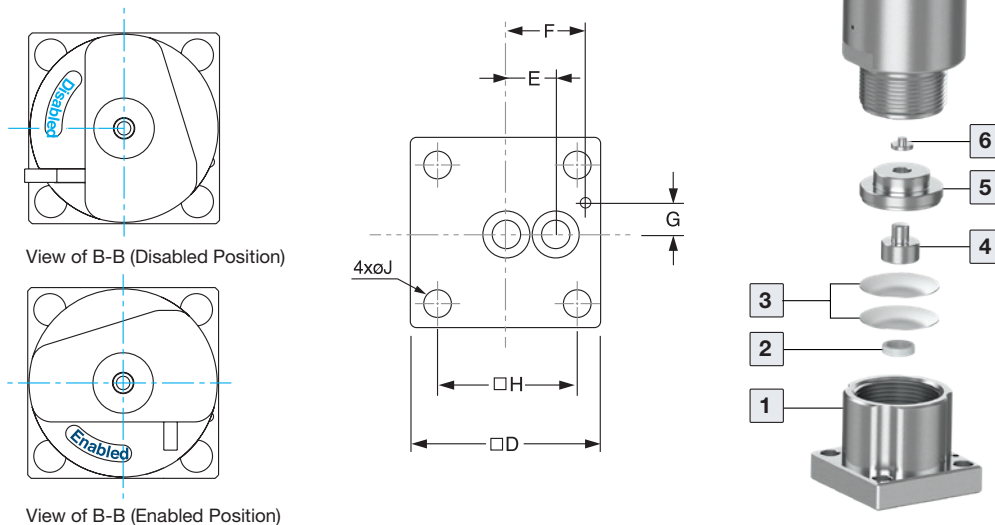
SPECIFICATIONS

Size	Design Pressure	Burst Pressure	Proof Pressure	Temp.	Cv	Leak Rates	
						Inboard	Across Seat
1/4	1MPa (150 psi)	31MPa (4500 psi)	1.5MPa (225 psi)	-10 60°C	0.3	3×10^{-12} Pa ¹ m ³ /sec Helium	3×10^{-10} Pa ¹ m ³ /sec Helium

STRUCTURE

Item No.	Part No.	Material
1	Body	Stainless steel, 316L Var or Vim/Var ⁽¹⁾
2	Seat	PCTFE, Polyimide
3	Diaphragm	Co-Cr-Ni Alloy
4	Act.Button	AMB6
5	Act.Button Holder	630SS
6	Spcr - Act	630SS
7	Handle/Act	Aluminum

⁽¹⁾ Per SEMI F20-0305



ORDERING INFORMATION

2LNS4C-CM2-HB

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

Surface Mount UCV | June 2023