



HAM-LET SURFACE MOUNT CATEGORY



- ✓ Compact
- ✓ Up to 150 psi
- ✓ Suitable for C-seal and W-seal

- HMS** - STANDARD SERIES
HMSC - COMPACT SERIES
2LN - HYBRID VALVE
W-SEAL - W-SEAL VALVE SERIES



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 1.500" c-seal. HMS Series is manufactured according to UHP specifications of SEMI F-20 with manual and pneumatic operating mechanisms.



UCV SPECIFICATIONS

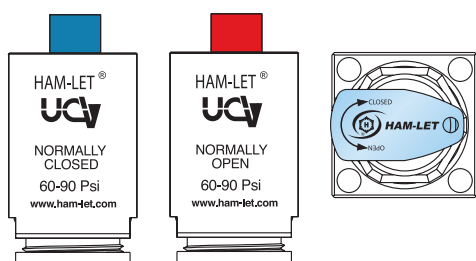
Structure	Direct-seal, metal-diaphragm valve without seal packing, manually and pneumatically operated
Design pressure	Vacuum to 1MPa (150 psi)
Burst pressure	31MPa (4500 psi)
Proof pressure	1.5MPa (225 psi)
Operating temperature: Standard	14 to 140°F, -10 to 60°C (PTFE seat)
Available	14 to 302°F, -10 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

MATERIALS OF CONSTRUCTION

Item No.	Part No.	Material
1	Body	SST, 316L Var or Vim/Var ¹
2	Seat	PCTFE, Polyimide
3	Seat holder	SST, 316L Var or Vim/Var ¹
4	Diaphragm	Co-Cr-Ni alloy
5	Actuation device	Manual A6061T6
		Pneumatic A6061T6

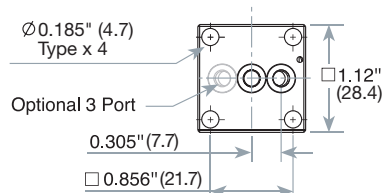
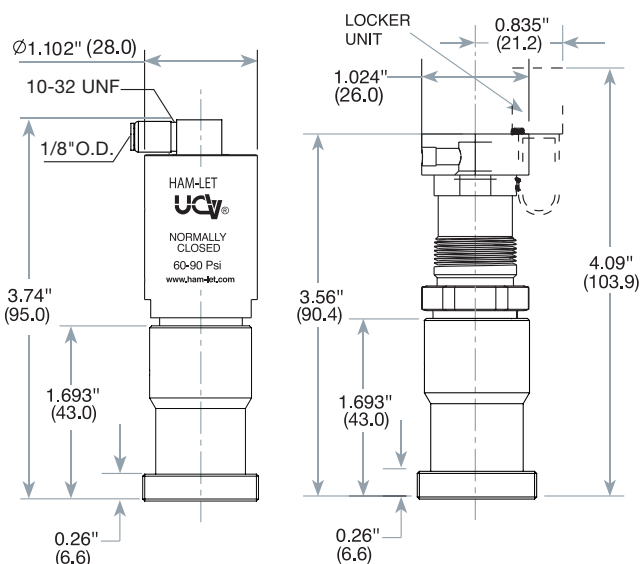
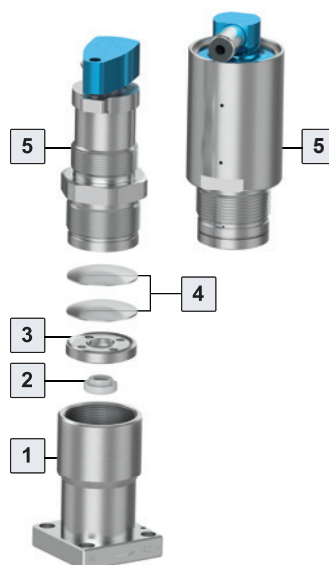
¹Per SEMI F20-0305

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

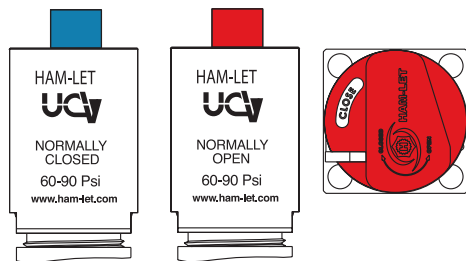
Structure	Direct-seal, metal-diaphragm valve without seal packing, manually and pneumatically operated
Design pressure	Vacuum to 1MPa (150 psi)
Burst pressure	31MPa (4500 psi)
Proof pressure	1.5MPa (225 psi)
Operating temperature: Standard	14 to 140°F, -10 to 60°C (PCTFE seat)
Available	14 to 302°F, -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

MATERIALS OF CONSTRUCTION

Item No.	Part No.	Material
1	Body	SST, 316L Var or Vim/Var ¹
2	Seat	PCTFE, Polyimide
3	Diaphragm	Co-Cr-Ni alloy
4	Act. button	304 SST
5	Act. button holder	SST, ASTM 630 H900
6	Actuation device	Manual A6061T6
		Pneumatic A6061T6

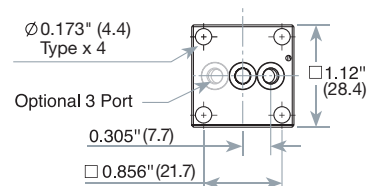
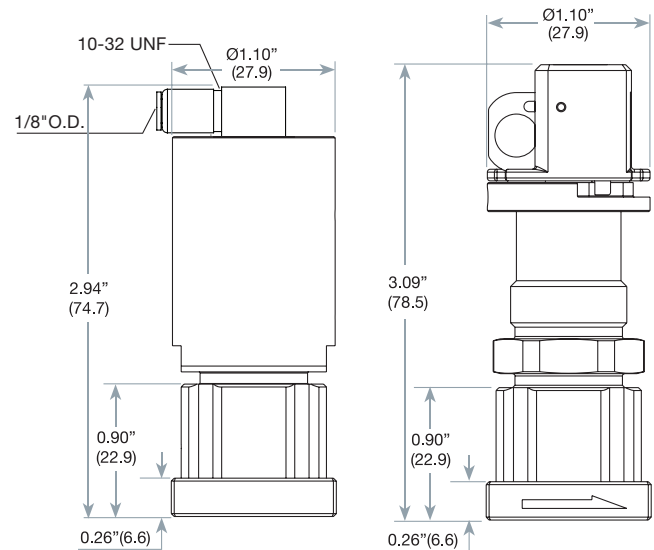
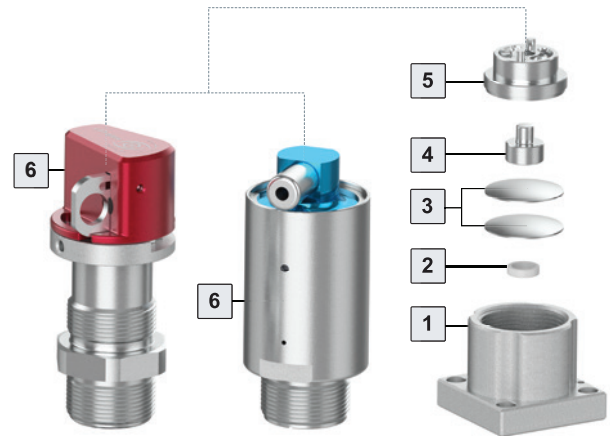
¹Per SEMI F20-0305

ACTUATION DEVICE - MARKING



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

HMSC SERIES - SFTY

MANUAL-SAFETY COMPACT SERIES

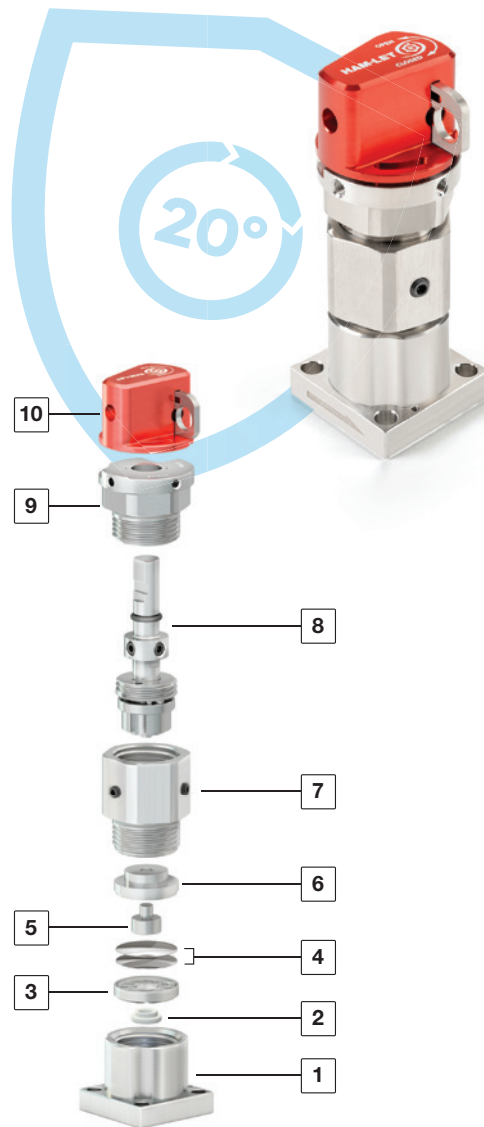
UCT's manually operated surface-mount body and compact design valve with an extra safety feature that adds a fool-proof mechanism. This advanced safety system ensures secure valve operation during both opening and closing, remaining unaffected by handle movement within the initial 20 degrees. The mechanism plays a crucial role in eliminating unintentional opening or closing incidents by the operator.

UCV SPECIFICATIONS

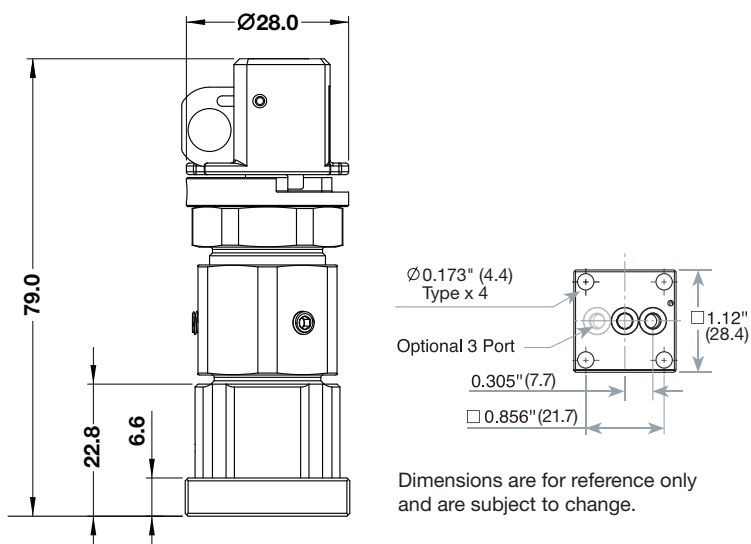
Structure	Direct-seal, metal-diaphragm valve without seal packing, manually and pneumatically operated
Design pressure	Vacuum to 1MPa (150 psi)
Burst pressure	31MPa (4500 psi)
Proof pressure	1.38 MPa (200 psi)
Operating temperature	14 to 140°F, -10 to 60°C (PCTFE Seat)
Leakage: Inboard leakage	$\leq 3 \times 10^{-11}$ atm cc He/sec
Across the seat	$\leq 1 \times 10^{-9}$ atm cc He/sec
Particles	No particles detected above 0.1µm
Cv value	0.3
Surface finish Ra (Ave)-standard	5µin

MATERIALS OF CONSTRUCTION

Item	Part No.	Material
1	Body	Stainless steel, 316L VAR
2	Seat	PCTFE
3	Seat holder	Stainless steel, 316L VAR
4	Diaphragm	Co-Cr-Ni Alloy
5	Act. Button	Stainless steel
6	Act. button holder	Stainless steel
7	Lower Bonnet	Stainless steel
8	Stem Assembly	Stainless steel
9	Upper Bonnet	Stainless steel
10	Handle	AL-6061 T6

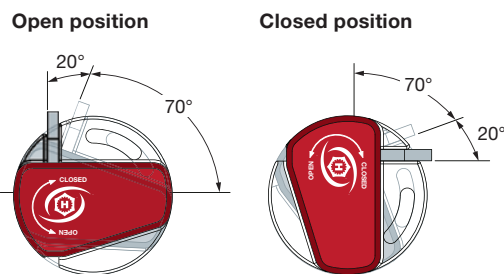


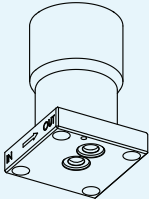
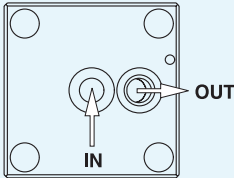
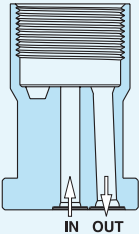
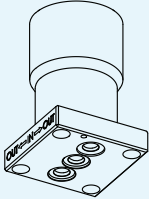
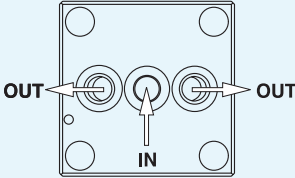
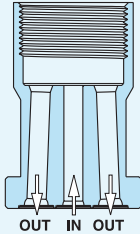
DIMENSIONS

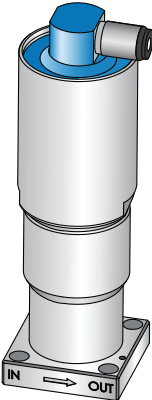
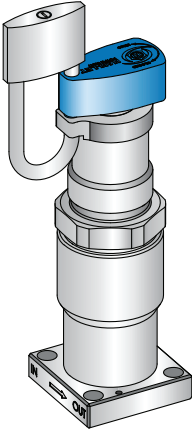


HANDLE - MARKING AND POSITION

The valve remains unaffected within handle's first 20° of rotation



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 TYPE					
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/Red Actuation Cap indicates Normally Closed/Normally Open respectively			 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

A

30

-

4

V

K

B

LQ

-

LD

Valve Series

S - UCV surface mount valves

SC - Compact UCV surface mount valves

Body Size

4 - 1/4" (Modular 1.125 inch)

8 - 1/2" (Modular 1.5 inch)

Seat Material

K - PCTFE

S* - Polyimide

K Standard, *Available.

* Body 1/2" only with K

Valve Type

20 - Two port valve

30 - Three port valve

Body Raw Material

V - SS 316L VAR

Actuation Device

C - Air operated N.C. 150 psi

LO - Air operated N.O. 150 psi

LQ - Oval handle 1/4 turn 150 psi

Option

LD - Locking device

ISLT - LOTO device⁽¹⁾

LS - Limit switch

SFTY - Manual seafy handle⁽²⁾

⁽¹⁾ Standard for HMSC LQ handle

⁽²⁾ Available only for HMSC series

ORDERING EXAMPLES

Description	HMS30-4VSLQ-LD		HMS20-4VKC	
	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	SS316L VAR	V	SS316L VAR
Seat material	S	Polyimide	K	PCTFE
	LQ	Oval handle 1/4 turn 150 psi	C	Air operated N.C. 150 psi
Features	LD	Locking device		

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.

SPECIFICATIONS

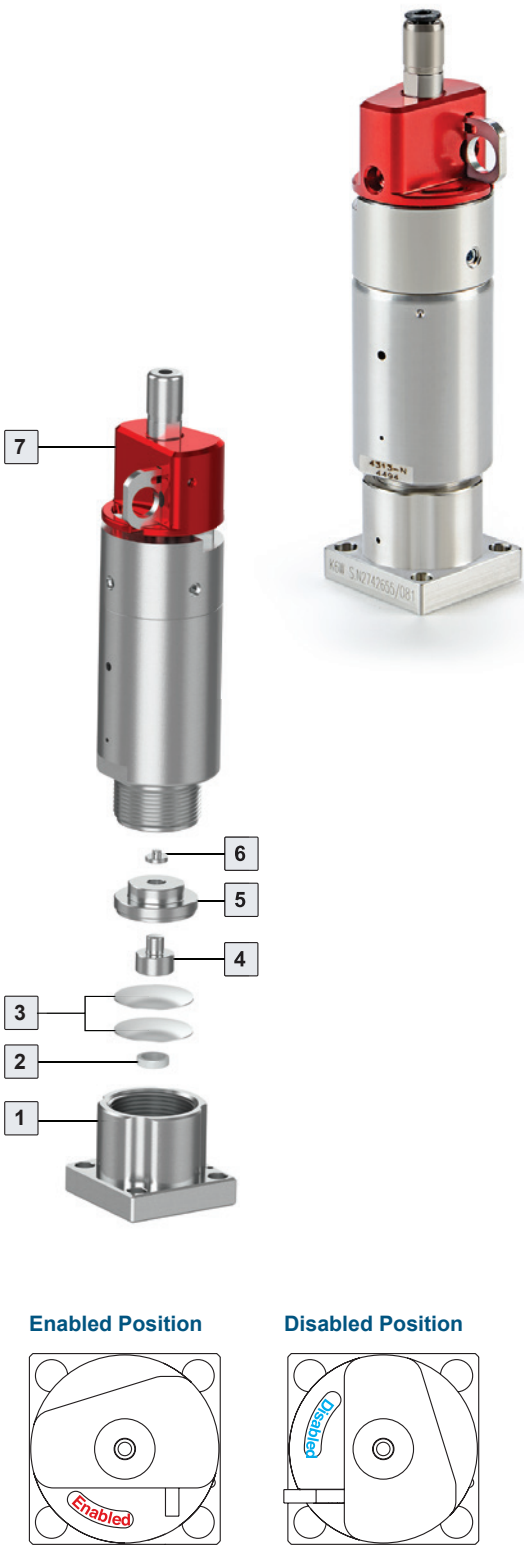
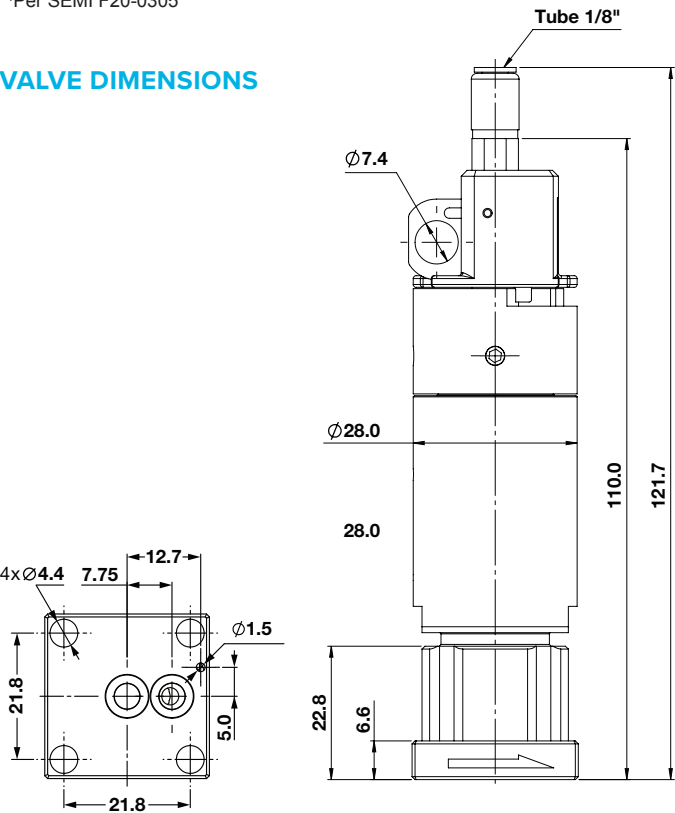
Size	Design Pressure	Burst Pressure	Proof Pressure	Temp.	Cv	Leak Rates	
						Inboard	Across Seat
1/4"	1MPa (150 psi)	31MPa (4500 psi)	1.5MPa (225 psi)	-10 60°C	0.3	3 X 10 ⁻¹² Pa ¹ m ³ /sec Helium	3 X 10 ⁻¹⁰ Pa ¹ m ³ /sec Helium

MATERIALS OF CONSTRUCTION

Item No.	Part No.	Material
1	Body	SST, 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	Spr - Act	630SS
7	Handle/Act	Aluminum

¹Per SEMI F20-0305

VALVE DIMENSIONS



ORDERING INFORMATION

2LNS4C-CM2-HB

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Surface Mount UCV | August 2025

W-SEAL VALVES SERIES

W-SEAL SURFACE MOUNT SERIES

An Ultra-Clean metal diaphragm valve in a surface mount body design. Available in manual, air operated and hybrid operation types.



UCV SPECIFICATIONS

Structure	Direct-seal, metal-diaphragm valve, manually and pneumatically operated
Working Pressure	Vacuum to 150 psi (10 bar)
Proof Pressure	225 psi (15.5 bar)
Burst Pressure	4500 psi (310 bar)
Working Temperature	14 to 176°F (-10 to 80°C)
Leak Rate: Inboard leakage	$\leq 3 \times 10^{-11}$ atm cc He/sec
Across the seat	$\leq 1 \times 10^{-9}$ atm cc He/sec
Flow Coefficient	Cv 0.3
Actuation Pressure	60 to 90 psi (4 to 6 bar)
Surface Finish	Electropolished (Ra 5µin)

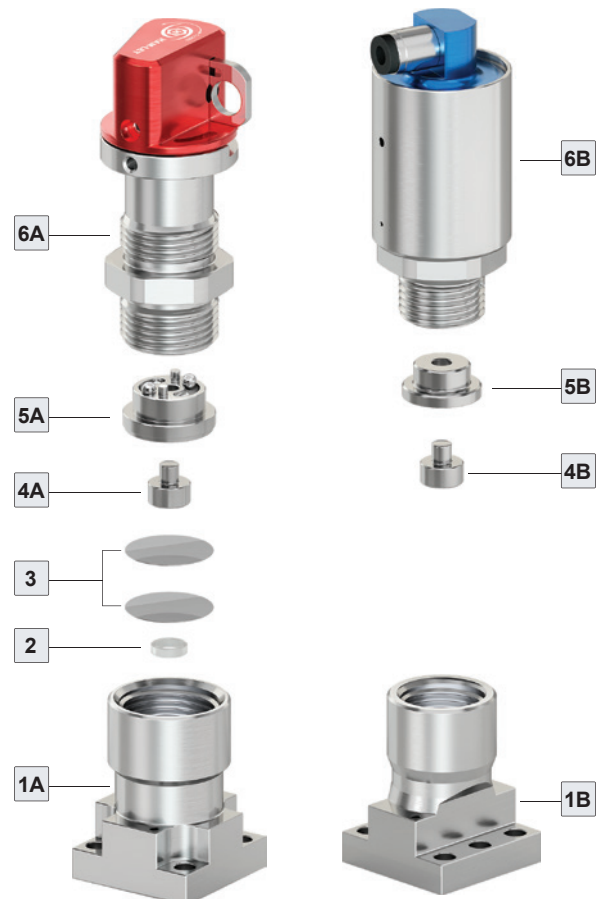
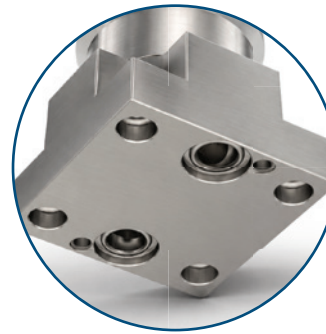
MATERIALS OF CONSTRUCTION

Item No.	Part No.	Material
1A	Body 2-Port ¹	SS 316L VAR
1B	Body 3-Port ¹	SS 316L VAR
2	Seat ¹	PCTFE
3	Diaphragm ¹	Co-Cr-Ni Alloy
4A	Act. Button (manual operation)	AMB6
4B	Act. Button (air operated)	SS 316L
5A	Act. Button Holder (manual operation)	SS 17-4 PH
5B	Act. Button Holder (air operated)	SS 17-4 PH
6A	LOTO handle	Aluminum 6061
6B	Actuator	SS 303

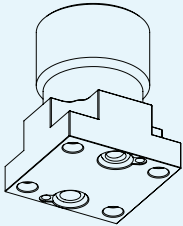
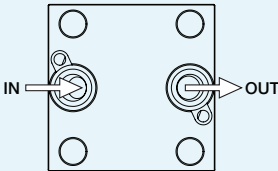
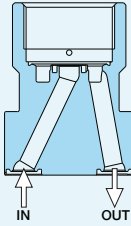
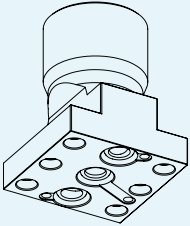
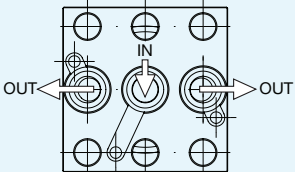
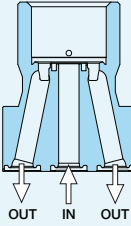
¹Wetted parts

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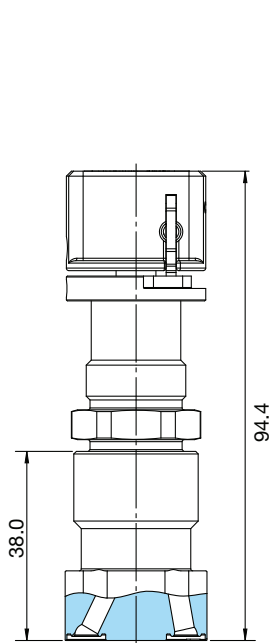


W-SEAL CONNETIONS

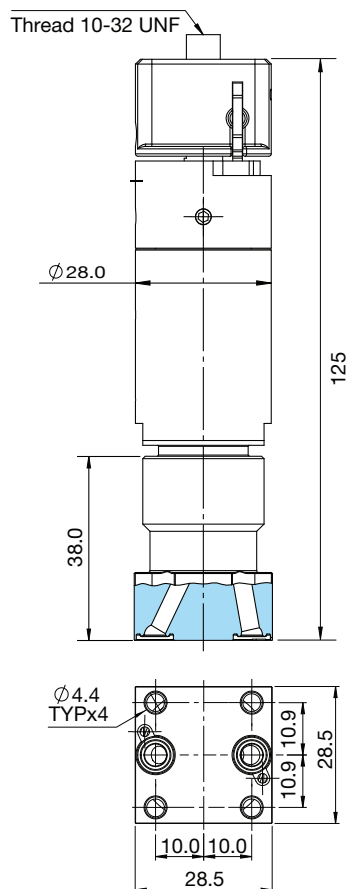
	Flow Direction Body View	Schematic Flow Chart	Flow Direction
WSM20 Two Port Valve			
WSM30 Three Port Valve			

DIMENSIONS

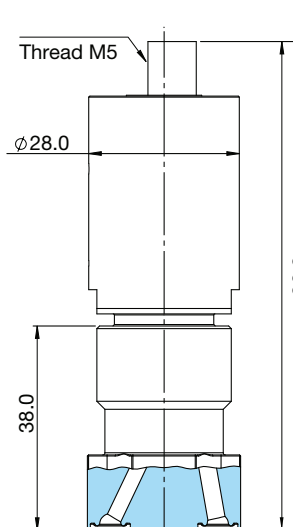
Manual LOTO
2 Port



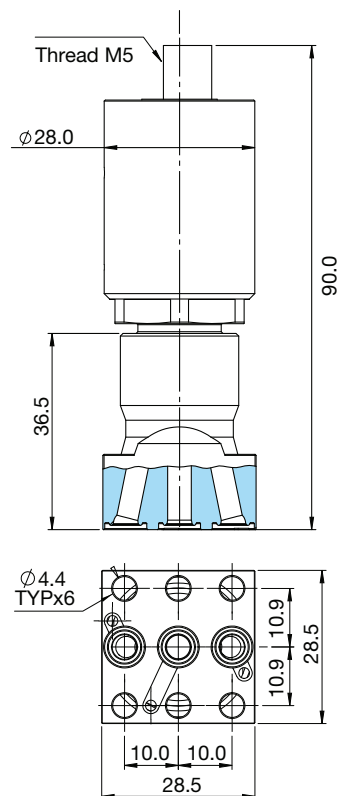
Hybrid N.C
2 Port



Air operated N.C
2 Port



Air operated N.C
3 Port



ORDERING INFORMATION - W-SEAL VALVES SERIES

WSM	20	-	4	V	K	LC	4M
Valve Series	Valve Type			Body Material		Actuation Device	Air Connection
	20 Two port valve			V SS 316L VAR		LC Air operated N.C	Blank Without fitting
	30 Three port valve					LQ-ISLT LOTO handle 1/4 turn ⁽¹⁾	4M For 4mm tube ⁽²⁾
	Body Size			Seat Material		LC-HB Hybrid N.C ⁽¹⁾	4ML For 4mm L-tube ⁽³⁾
	4 1/4" (1.125" W-Seal)			K PCTFE			

⁽¹⁾For 2-port only

⁽²⁾For air operated only

⁽³⁾For hybrid only

W-SEAL BLOCKS

W-seal Blocks are available upon request, for extra information please contact your local UCT Fluid Solutions customer service.

