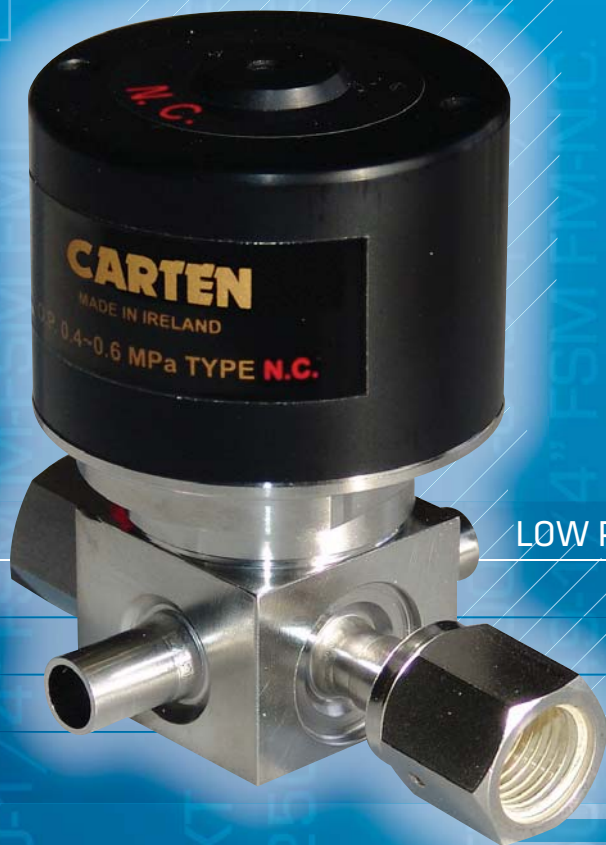


CARTEN®

Ultra High Purity Valves

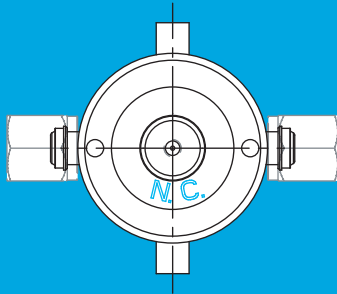


CMD Series

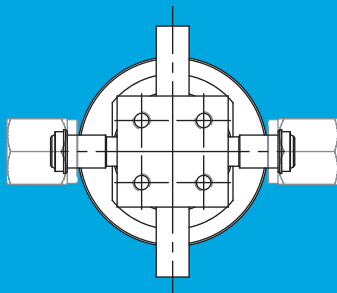
LOW PRESSURE, HIGH PERFORMANCE VALVES



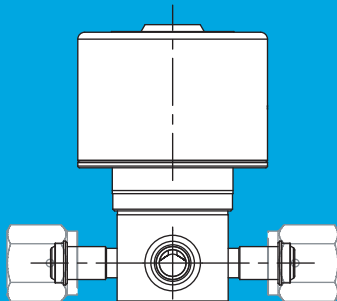
Product Features



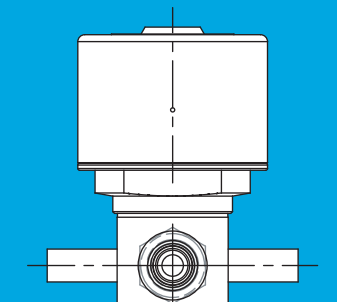
TOP VIEW



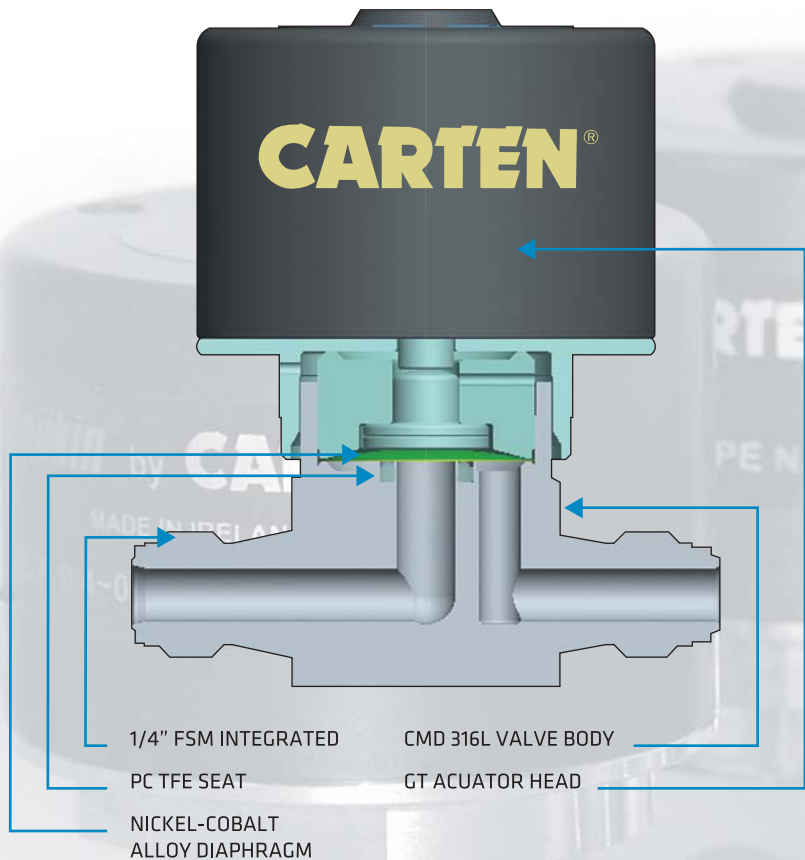
BOTTOM VIEW



FRONT VIEW



SIDE VIEW



The Carten® CMD series is a range of low pressure high performance compact diaphragm valves designed for high demanding applications in semiconductor manufacturing processes. The CMD series offers exceptional quality and value for the increasing challenges in ultra high purity gas delivery systems. Product features include the direct diaphragm design that offers exceptional sealing performance, reliability and safety with minimal particle generation and dead-space free.

The CMD series can be specified in a variety of configurations, and with a range of options or accessories, to support a wide range of semiconductor fab equipment requirements. The high performance capabilities makes the CMD range a natural selection for Valve Manifold Boxes (VMB's), Valve Manifold Panels (VMP's), Hook-Up, Tool Install and Stick Assembly applications. The CMD range is suitable for all inert gases and most toxic gases.

Configurations and Options

The versatile CMD range can be specified in many configurations and with a variety of different options or accessories, including:

- PCTFE or PI seat materials
- Inner surface treatments
- Block valve
- Limit switch
- Lock-out tags
- Hastelloy C-22 bodies
- High-pressure certification
- Proximity sensor
- Various handle colours



CMD Low Pressure Specifications

Series	Size	Operating Pressure	Standard Operating Temperature	Operating Mode	Air Supply	Cv Value	Durability Test	Body Material	Diaphragm	Seat Material	Surface Finish	Seat Leak Rate	External Leak Rate
CMD250	1/4"	250PSI	10-80 °C	Manual	N/A	0.30	20,000	316L SS	Nickel-	PCTFE	10Ra EP	1 x 10 ⁻⁹	1 x 10 ⁻⁹
CMD375	3/8"	250PSI	10-80 °C	Multi Turn	N/A	0.60	cycles at	316L SS	Cobalt Alloy	PCTFE	10Ra EP	atm	atm
CMD500	1/2"	250PSI	10-80 °C		N/A	0.70	150PSI	316L SS		PCTFE	10Ra EP	cm ³ /sec	cm ³ /sec
CMDA250	1/4"	150PSI	10-80 °C	Pneumatic	58-87	0.30	4,000,000	316L SS	Nickel-	PCTFE	10Ra EP		
CMDA375	3/8"	250PSI	10-80 °C	Pneumatic	PSIG	0.60	cycles at	316L SS	Cobalt Alloy	PCTFE	10Ra EP		
CMDA500	1/2"	250PSI	10-80 °C	Pneumatic		0.70	150PSI	316L SS		PCTFE	10Ra EP		
CMDQ250	1/4"	250PSI	10-80 °C	Manual	N/A	0.30	20,000	316L SS	Nickel-	PCTFE	10Ra EP		
CMDQ375	3/8"	250PSI	10-80 °C	Quarter Turn	N/A	0.60	cycles at	316L SS	Cobalt Alloy	PCTFE	10Ra EP		
CMDQ500	1/2"	250PSI	10-80 °C		N/A	0.70	150PSI	316L SS		PCTFE	10Ra EP		

* Optional Material in Double Melt 316L St.St.

** Optional Seat Materials: Polyimide (150°C) and PFA (150°C)



Carten Valve Descriptions

Carten Series	Port Type	Size	Inlet Connection	Outlet Connection	Purge Port Type	Actuator Designator	Actuator Accessories	Surface Finish Option
CMD (Manual Multi-Turn)	S	250 (1/4")	1/4" TE = 035	1/4" TE = 035	PC1	N.C.	EPS	10Ra EP (Std.)
CMDA (Pneumatic Actuation)	CL	375 (3/8")	3/8" TE = 035	3/8" TE = 035	PC2	N.O.		5Ra EP
CMDQ (Quarter Turn)	CR	500 (1/2")	1/2" TE = 049	1/2" TE = 049	PC3			15Ra EP
	TB		1/4" FSM M	1/4" FSM M	PV1			
	TL		1/4" FSM FM	1/4" FSM FM	PV2			
	TR		1/4" FSM M(S)	1/4" FSM M(S)	PV3			
	TLO		3/8" FSM M	3/8" FSM M	PC(FM)			
	TRO		3/8" FSM FM	3/8" FSM FM				
	XB		3/8" FSM M(S)	3/8" FSM M(S)				
	XT		1/2" FSM M	1/2" FSM M				
	XR		1/2" FSM FM	1/2" FSM FM				
	XO		1/2" FSM M(S)	1/2" FSM M(S)				

* FSM is Carten's Face Seal Metal connection. FSM is compatible with the VCR® brand *

** EPS refers to an Explosion Proof Proximity Sensor. See customer drawings for specific EPS details **



Examples

CMDA | TB | 500 | -049 | -1/4" FSM FM | -N.C.
[CMDATB500-049-1/4" FSM FM-N.C.]

_" Pneumatically Operated Diaphragm Valve, 3-Way TEE type,
_" x .049" Tube Extension Connection on the Main Line,
_" FSM Female Connection on the Branch Line,
Normally Closed actuation

CMD | S | 250 | -1/4" FSM M | -FSM FM
[CMDS250-1/4" FSM M-FSM FM]

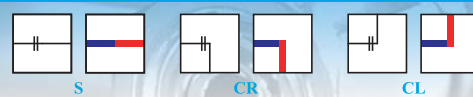
_" Manual Multi-Turn Diaphragm Valve, 2-Way Straight type,
_" FSM Male Fixed Connection on the Inlet,
_" FSM Female Connection on the Outlet

CMDQ | XT | 250 | -1/4" FSM M-FSM FM | -FSM FM-FSM FM
[CMDQXT250-1/4" FSM M-FSM FM-FSM FM-FSM FM]

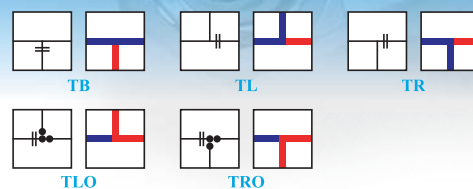
_" Manual Quarter-Turn Diaphragm Valve, 4-Way Cross type,
_" FSM Male Fixed Connection on the Main Line Inlet,
_" FSM Female Connection on the Main Line Outlet,
_" FSM Female Connection on the #1 Branch Outlet,
_" FSM Female Connection on the #2 Branch Outlet

Valve Porting Guide

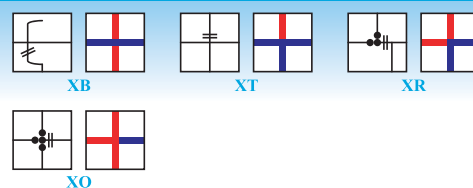
> 2 PORT [2 WAY]



> 3 PORT [3 WAY]



> 4 PORT [4 WAY]



* Specifications are subject to change without notice. Please contact Carten for full specification details at the time of enquiry.

** It is the responsibility of the systems design engineer to ensure material selection and system compatibility with the systems requirements.

CARTEN®

Ultra High Purity Valves

IRELAND

Carten Controls Ltd
Unit 609 Waterford Industrial Park
Waterford, Ireland
Tel: + 353-51-355436
Fax: + 353-51-378054
Email: sales@cartencontrols.com
Web: www.cartencontrols.com

USA

Carten Controls
604 West Johnson Avenue
Cheshire, CT. 06410
USA
Tel: +1 203-699-2100
Fax: +1 203-699-2179
Email: sales@cartenUS.com
Web: www.cartenUS.com



Carten Controls Ltd is a member of the Fujikin Group.

