

Pneumatic Components

Industrial & Compressed Air Products Limited

Push-In Fittings

Filter-Regulator-Lubricator

Solenoid & Air Pilot Valves

Process Valves

Manual Air Valves

Polyurethane Tubing









Composite Push-In Fittings

Composite Fittings							
Model		Male Connector with Internal Hex	Compact Male Connector with Internal Hex	Male Elbow	Branch Tee	Run Tee	Y Connector
Tube OD	Pipe Size	MC	CC	ME	BT	RT	YC
1/8	10-32UNF	MC 1/8 10-32	CC 1/8 10-32	ME 1/8 10-32	BT 1/8 10-32	RT 1/8 10-32	YC 1/8 10-32
1/8	NPT1/8	MC 1/8 N1/8	CC 1/8 N1/8	ME 1/8 N1/8	BT 1/8 N1/8	RT 1/8 N1/8	YC 1/8 N1/8
1/8	NPT1/4	MC 1/8 N1/4	CC 1/8 N1/4	ME 1/8 N1/4	BT 1/8 N1/4		
5/32	10-32UNF	MC 5/32 10-32	CC 5/32 10-32	ME 5/32 10-32	BT 5/32 10-32	RT 5/32 10-32	YC 5/32 10-32
5/32	NPT1/8	MC 5/32 N1/8	CC 5/32 N1/8	ME 5/32 N1/8	BT 5/32 N1/8	RT 5/32 N1/8	YC 5/32 N1/8
5/32	NPT1/4	MC 5/32 N1/4	CC 5/32 N1/4	ME 5/32 N1/4	BT 5/32 N1/4	RT 5/32 N1/4	YC 5/32 N1/4
3/16	10-32UNF	MC 3/16 10-32		ME 3/16 10-32	BT 3/16 10-32	RT 3/16 10-32	YC 3/16 10-32
3/16	NPT1/8	MC 3/16 N1/8		ME 3/16 N1/8	BT 3/16 N1/8	RT 3/16 N1/8	YC 3/16 N1/8
3/16	NPT1/4	MC 3/16 N1/4		ME 3/16 N1/4	BT 3/16 N1/4	RT 3/16 N1/4	YC 3/16 N1/4
3/16	NPT3/8	MC 3/16 N3/8		ME 3/16 N3/8	BT 3/16 N3/8	RT 3/16 N3/8	YC 3/16 N3/8
1/4	10-32UNF	MC 1/4 10-32	CC 1/4 10-32	ME 1/4 10-32	BT 1/4 10-32	RT 1/4 10-32	YC 1/4 10-32
1/4	NPT1/8	MC 1/4 N1/8	CC 1/4 N1/8	ME 1/4 N1/8	BT 1/4 N1/8	RT 1/4 N1/8	YC 1/4 N1/8
1/4	NPT1/4	MC 1/4 N1/4	CC 1/4 N1/4	ME 1/4 N1/4	BT 1/4 N1/4	RT 1/4 N1/4	YC 1/4 N1/4
1/4	NPT3/8	MC 1/4 N3/8		ME 1/4 N3/8	BT 1/4 N3/8	RT 1/4 N3/8	YC 1/4 N3/8
5/16	NPT1/8	MC 5/16 N1/8		ME 5/16 N1/8	BT 5/16 N1/8	RT 5/16 N1/8	YC 5/16 N1/8
5/16	NPT1/4	MC 5/16 N1/4		ME 5/16 N1/4	BT 5/16 N1/4	RT 5/16 N1/4	YC 5/16 N1/4
5/16	NPT3/8	MC 5/16 N3/8		ME 5/16 N3/8	BT 5/16 N3/8	RT 5/16 N3/8	YC 5/16 N3/8
3/8	NPT1/8	MC 3/8 N1/8	CC 3/8 N1/8	ME 3/8 N1/8	BT 3/8 N1/8	RT 3/8 N1/8	YC 3/8 N1/8
3/8	NPT1/4	MC 3/8 N1/4	CC 3/8 N1/4	ME 3/8 N1/4	BT 3/8 N1/4	RT 3/8 N1/4	YC 3/8 N1/4
3/8	NPT3/8	MC 3/8 N3/8	CC 3/8 N3/8	ME 3/8 N3/8	BT 3/8 N3/8	RT 3/8 N3/8	YC 3/8 N3/8
3/8	NPT1/2	MC 3/8 N1/2		ME 3/8 N1/2	BT 3/8 N1/2	RT 3/8 N1/2	YC 3/8 N1/2
1/2	NPT1/4	MC 1/2 N1/4	CC 1/2 N1/4	ME 1/2 N1/4	BT 1/2 N1/4	RT 1/2 N1/4	YC 1/2 N1/4
1/2	NPT3/8	MC 1/2 N3/8	CC 1/2 N 3/8	ME 1/2 N3/8	BT 1/2 N3/8	RT 1/2 N3/8	YC 1/2 N3/8
1/2	NPT1/2	MC 1/2 N1/2		ME 1/2 N1/2	BT 1/2 N1/2	RT 1/2 N1/2	YC 1/2 N1/2

4 mm	M5X0.8	MC 4 M5		ME 4 M5	BT 4 M5	RT 4 M5	YC 4 M5
4 mm	M6X1	MC 4 M6		ME 4 M6	BT 4 M6	RT 4 M6	YC 4 M6
4 mm	R1/8	MC 4 R1/8		ME 4 R1/8	BT 4 R1/8	RT 4 R1/8	YC 4 R1/8
4 mm	R1/4	MC 4 R1/4		ME 4 R1/4	BT 4 R1/4	RT 4 R1/4	YC 4 R1/4
6 mm	M5X0.8	MC 6 M5		ME 6 M5	BT 6 M5	RT 6 M5	YC 6 M5
6 mm	M6X1	MC 6 M6		ME 6 M6	BT 6 M6	RT 6 M6	YC 6 M6
6 mm	R1/8	MC 6 R1/8		ME 6 R1/8	BT 6 R1/8	RT 6 R1/8	YC 6 R1/8
6 mm	R1/4	MC 6 R1/4		ME 6 R1/4	BT 6 R1/4	RT 6 R1/4	YC 6 R1/4
6 mm	R3/8	MC 6 R3/8		ME 6 R3/8	BT 6 R3/8	RT 6 R3/8	YC 6 R3/8
6 mm	R1/2	MC 6 R1/2		ME 6 R1/2	BT 6 R1/2	RT 6 R1/2	YC 6 R1/2
8 mm	R1/8	MC 8 R1/8		ME 8 R1/8	BT 8 R1/8	RT 8 R1/8	YC 8 R1/8
8 mm	R1/4	MC 8 R1/4		ME 8 R1/4	BT 8 R1/4	RT 8 R1/4	YC 8 R1/4
8 mm	R3/8	MC 8 R3/8		ME 8 R3/8	BT 8 R3/8	RT 8 R3/8	YC 8 R3/8
8 mm	R1/2	MC 8 R1/2		ME 8 R1/2	BT 8 R1/2	RT 8 R1/2	YC 8 R1/2
10 mm	R1/8	MC 10 R1/8		ME 10 R1/8	BT 10 R1/8	RT 10 R1/8	YC 10 R1/8
10 mm	R1/4	MC 10 R1/4		ME 10 R1/4	BT 10 R1/4	RT 10 R1/4	YC 10 R1/4
10 mm	R3/8	MC 10 R3/8		ME 10 R3/8	BT 10 R3/8	RT 10 R3/8	YC 10 R3/8
10 mm	R1/2	MC 10 R1/2		ME 10 R1/2	BT 10 R1/2	RT 10 R1/2	YC 10 R1/2
12 mm	R1/4	MC 12 R1/4		ME 12 R1/4	BT 12 R1/4	RT 12 R1/4	YC 12 R1/4
12 mm	R3/8	MC 12 R3/8		ME 12 R3/8	BT 12 R3/8	RT 12 R3/8	YC 12 R3/8
12 mm	R1/2	MC 12 R1/2		ME 12 R1/2	BT 12 R1/2	RT 12 R1/2	YC 12 R1/2

Composite Push-In Fittings





Composite Fittings							
Model		Universal Elbow	Extended Elbow	Female Connector	Female Elbow	Bulkhead Connector	Control Valve CV=meter-out; CI= meter-in
Tube OD	Pipe Size	UE	EE	FC	FE	BC	CV or CI
1/8	10-32UNF	UE 1/8 10-32		FC 1/8 10-32	FE 1/8 10-32		CV 1/8 10-32
1/8	NPT1/8	UE 1/8 N1/8		FC 1/8 N1/8	FE 1/8 N1/8	BC 1/8 N1/8	CV 1/8 N1/8
5/32	10-32UNF	UE 5/32 10-32	EE 5/32 10-32	FC 5/32 10-32	FE 5/32 10-32		CV 5/32 10-32
5/32	NPT1/8	UE 5/32 N1/8	EE 5/32 N1/8	FC 5/32 N1/8	FE 5/32 N1/8	BC 5/32 N1/8	CV 5/32 N1/8
5/32	NPT1/4			FC 5/32 N1/4	FE 5/32 N1/4	BC 5/32 N1/4	CV 5/32 N1/4
3/16	10-32UNF	UE 3/16 10-32			FE 3/16 10-32		
3/16	NPT1/8	UE 3/16 N1/8	EE 3/16 N1/8		FE 3/16 N1/8	BC 3/16 N1/8	CV 3/16 N1/8
3/16	NPT1/4	UE 3/16 N1/4	EE 3/16 N1/4		FE 3/16 N1/4	BC 3/16 N1/4	
3/16	NPT3/8		EE 3/16 N3/8				
1/4	10-32UNF	UE 1/4 10-32			FE 1/4 10-32		CV 1/4 10-32
1/4	NPT1/8	UE 1/4 N1/8	EE 1/4 N1/8	FC 1/4 N1/8	FE 1/4 N1/8	BC 1/4 N1/8	CV 1/4 N1/8
1/4	NPT1/4	UE 1/4 N1/4	EE 1/4 N1/4	FC 1/4 N1/4	FE 1/4 N1/4	BC 1/4 N1/4	CV 1/4 N1/4
1/4	NPT3/8		EE 1/4 N3/8		FE 1/4 N3/8		CV 1/4 N3/8
5/16	NPT1/8	UE 5/16 N1/8	EE 5/16 N1/8	FC 5/16 N1/8	FE 5/16 N1/8	BC 5/16 N1/8	CV 5/16 N1/8
5/16	NPT1/4	UE 5/16 N1/4	EE 5/16 N1/4	FC 5/16 N1/4	FE 5/16 N1/4	BC 5/16 N1/4	CV 5/16 N1/4
5/16	NPT3/8	UE 5/16 N3/8	EE 5/16 N3/8	FC 5/16 N3/8	FE 5/16 N3/8		CV 5/16 N3/8
3/8	NPT1/8	UE 3/8 N1/8					
3/8	NPT1/4	UE 3/8 N1/4	EE 3/8 N1/4	FC 3/8 N1/4	FE 3/8 N1/4	BC 3/8 N1/4	CV 3/8 N1/4
3/8	NPT3/8	UE 3/8 N3/8	EE 3/8 N3/8	FC 3/8 N3/8	FE 3/8 N3/8	BC 3/8 N3/8	CV 3/8 N3/8
3/8	NPT1/2		EE 3/8 N1/2	FC 3/8 N1/2	FE 3/8 N1/2		CV 3/8 N1/2
1/2	NPT1/4		EE 1/2 N1/4	FC 1/2 N1/4			
1/2	NPT3/8	UE 1/2 N3/8	EE 1/2 N3/8	FC 1/2 N3/8		BC 1/2 N3/8	CV 1/2 N3/8
1/2	NPT1/2	UE 1/2 N1/2	EE 1/2 N1/2			BC 1/2 N1/2	CV 1/2 N1/2

4 mm	M5X0.8	UE 4 M5	EE 4 M5		FE 4 M5		CV 4 M5
4 mm	M6X1	UE 4 M6	EE 4 M6		FE 4 M6		CV 4 M6
4 mm	R1/8	UE 4 R1/8	EE 4 R1/8	FC 4 R1/8	FE 4 R1/8	BC 4 R1/8	CV 4 R1/8
4 mm	R1/4	UE 4 R1/4	EE 4 R1/4	FC 4 R1/4	FE 4 R1/4	BC 4 R1/4	CV 4 R1/4
6 mm	M5X0.8	UE 6 M5	EE 6 M5		FE 6 M5		CV 6 M5
6 mm	M6X1	UE 6 M6	EE 6 M6		FE 6 M6		CV 6 M6
6 mm	R1/8	UE 6 R1/8	EE 6 R1/8	FC 6 R1/8	FE 6 R1/8	BC 6 R1/8	CV 6 R1/8
6 mm	R1/4	UE 6 R1/4	EE 6 R1/4	FC 6 R1/4	FE 6 R1/4	BC 6 R1/4	CV 6 R1/4
6 mm	R3/8	UE 6 R3/8	EE 6 R3/8	FC 6 R3/8	FE 6 R3/8	BC 6 R3/8	CV 6 R3/8
6 mm	R1/2		EE 6 R1/2				
8 mm	R1/8	UE 8 R1/8	EE 8 R1/8	FC 8 R1/8	FE 8 R1/8	BC 8 R1/8	CV 8 R1/8
8 mm	R1/4	UE 8 R1/4	EE 8 R1/4	FC 8 R1/4	FE 8 R1/4	BC 8 R1/4	CV 8 R1/4
8 mm	R3/8	UE 8 R3/8	EE 8 R3/8	FC 8 R3/8	FE 8 R3/8	BC 8 R3/8	CV 8 R3/8
8 mm	R1/2	UE 8 R1/2	EE 8 R1/2	FC 8 R1/2		BC 8 R1/2	CV 8 R1/2
10 mm	R1/8		EE 10 R1/8	FC 10 R1/8	FE 10 R1/8	BC 10 R1/8	
10 mm	R1/4	UE 10 R1/4	EE 10 R1/4	FC 10 R1/4	FE 10 R1/4	BC 10 R1/4	CV 10 R1/4
10 mm	R3/8	UE 10 R3/8	EE 10 R3/8	FC 10 R3/8	FE 10 R3/8	BC 10 R3/8	CV 10 R3/8
10 mm	R1/2	UE 10 R1/2	EE 10 R1/2	FC 10 R1/2	FE 10 R1/2	BC 10 R1/2	CV 10 R1/2
12 mm	R1/4	UE 12 R1/4	EE 12 R1/4	FC 12 R1/4	FE 12 R1/4	BC 12 R1/4	CV 12 R1/4
12 mm	R3/8	UE 12 R3/8	EE 12 R3/8	FC 12 R3/8	FE 12 R3/8	BC 12 R3/8	CV 12 R3/8
12 mm	R1/2	UE 12 R1/2	EE 12 R1/2	FC 12 R1/2	FE 12 R1/2	BC 12 R1/2	CV 12 R1/2

Composite Push-In Fittings

Composite Fittings								
Model	Flow Valve	Bulkhead Union	Cross Union	Elbow Union	Straight Union	Tee Union	Y Union	
Tube OD	FV	BU	CU	EU	SU	TU	YU	
1/8	FV 1/8	BU 1/8	CU 1/8	EU 1/8	SU 1/8	TU 1/8	YU 1/8	
5/32	FV 5/32	BU 5/32	CU 5/32	EU 5/32	SU 5/32	TU 5/32	YU 5/32	
3/16	FV 3/16	BU 3/16	CU 3/16	EU 3/16	SU 3/16	TU 3/16	YU 3/16	
1/4	FV 1/4	BU 1/4	CU 1/4	EU 1/4	SU 1/4	TU 1/4	YU 1/4	
5/16	FV 5/16	BU 5/16	CU 5/16	EU 5/16	SU 5/16	TU 5/16	YU 5/16	
3/8	FV 3/8	BU 3/8	CU 3/8	EU 3/8	SU 3/8	TU 3/8	YU 3/8	
1/2	FV 1/2	BU 1/2	CU 1/2	EU 1/2	SU 1/2	TU 1/2	YU 1/2	
4 mm	FV 04	BU 4	CU 4	EU 4	SU 4	TU 4	YU 4	
6 mm	FV 06	BU 6	CU 6	EU 6	SU 6	TU 6	YU 6	
8 mm	FV 08	BU 8	CU 8	EU 8	SU 8	TU 8	YU 8	
10 mm	FV 10	BU 10	CU 10	EU 10	SU 10	TU 10	YU 10	
Composite Fittings	FV 12	BU 12	CU 12	EU 12	SU 12	TU 12	YU 12	
Model	Elbow Reducer (Tube-Stem)	Plug In Elbow	Male Manifold	Manifold Union	Reduced Branch	Reduced Union	Tee Reducer	
Tube OD	ER	PE	MM	MU	RB	RU	TR	
1/8	ER 1/8-5/32	PE 1/8	MM 1/4-5/32-N1/8	MU 5/32X1/8	RB 5/32-1/8	RU 5/32-1/8	TR 5/32-1/8	
5/32	ER 5/32-1/4	PE 5/32	MM 5/16-5/32-N1/4	MU 1/4X5/32	RB 3/16-5/32	RU 3/16-5/32	TR 3/16-1/8	
3/16		PE 3/16	MM 5/16-1/4-N1/4	MU 5/16X5/32	RB 1/4-5/32	RU 1/4-5/32	TR 1/4-5/32	
1/4	ER 1/4-5/16	PE 1/4		MU 5/16X1/4	RB 1/4-3/16	RU 1/4-3/16	TR 1/4-3/16	
5/16	ER 5/16-3/8	PE 5/16		MU 3/8X1/4	RB 5/16-1/4	RU 5/16-1/4	TR 5/16-1/4	
3/8	ER 3/8-1/2	PE 3/8			RB 3/8-1/4	RU 3/8-1/4	TR 3/8-1/4	
1/2		PE 1/2			RB 3/8-5/16	RU 3/8-5/16	TR 3/8-5/16	
4 mm			MM 06-04-R1/8	MU 6-4	RB 1/2-3/8	RU 1/2-3/8	TR 1/2-3/8	
6 mm	ER 4-6	PE 4	MM 08-04-R1/4	MU 8-4	RB 6-4	RU 6-4	TR 6-4	
8 mm	ER 6-8	PE 6	MM 08-06-R3/8	MU 8-6	RB 8-6	RU 8-6	TR 8-6	
10 mm	ER 8-10	PE 8	MM 10-08-R3/8	MU 10-6	RB 10-8	RU 10-8	TR 10-8	
12 mm	ER 10-12	PE 10		MU 10-8	RB 12-10	RU 12-10	TR 12-10	
Composite Fittings								
Model	Plug	Stem Coupler	Stem Reducer	Tube Reducer (Tube-Stem)	Model	Stack Elbow	Male Angle	
Tube OD	PG	SC	SR	TR	Tube OD	Pipe Size	SE	MA
1/8	PG 1/8	SC 1/8			5/32	10-32	SE 5/32 10-32	MA 5/32 10-32
5/32	PG 5/32	SC 5/32	SR 1/8-5/32	TR 1/8-5/32	5/32	NPT1/8	SE 5/32 N1/8	MA 5/32 N1/8
3/16					1/4	10-32	SE 1/4 10-32	MA 1/4 10-32
1/4	PG 1/4	SC 1/4	SR 5/32-1/4	TR 5/32-1/4	1/4	NPT1/8	SE 1/4 N1/8	MA 1/4 N1/8
5/16	PG 5/16	SC 5/16	SR 1/4-5/16	TR 1/4-5/16	1/4	NPT1/4	SE 1/4 N1/4	MA 1/4 N1/4
3/8	PG 3/8	SC 3/8	SR 1/4-3/8	TR 1/4-3/8	5/16	NPT1/4	SE 5/16 N1/4	MA 5/16 N1/4
1/2	PG 1/2	SC 1/2	SR 3/8-1/2	TR 3/8-1/2	5/16	NPT3/8	SE 5/16 N3/8	MA 5/16 N3/8
4 mm	PG 4	SC 4			3/8	NPT1/4	SE 3/8 N1/4	MA 3/8 N1/4
6 mm	PG 6	SC 6	SR 4-6	TR 4-6	3/8	NPT3/8	SE 3/8 N3/8	MA 3/8 N3/8
8 mm	PG 8	SC 8	SR 6-8	TR 6-8				
10 mm	PG10	SC10	SR 8-10	TR 8-10	1/2	NPT3/8	SE 1/2 N3/8	MA 1/2 N3/8
12 mm	PG 12	SC 12	SR 10-12	TR 10-12	1/2	NPT1/2	SE 1/2 N1/2	MA 1/2 N1/2

316 Stainless Steel Push-In Fittings

Stainless Steel Fittings								
	Bulkhead Union		Elbow Union		Straight Union		Tee Union	
Name	Part No.		Part No.		Part No.		Part No.	
Tube OD								
1/8"	BUS 1/8		EUS 1/8		SUS 1/8		TUS 1/8	
5/32"	BUS 5/32		EUS 5/32		SUS 5/32		TUS 5/32	
1/4"	BUS 1/4		EUS 1/4		SUS 1/4		TUS 1/4	
5/16"	BUS 5/16		EUS 5/16		SUS 5/16		TUS 5/16	
3/8"	BUS 3/8		EUS 3/8		SUS 3/8		TUS 3/8	
1/2"	BUS 1/2		EUS 1/2		SUS 1/2		TUS 1/2	

4 mm	BUS 4		EUS 4		SUS 4		TUS 4	
6 mm	BUS 6		EUS 6		SUS 6		TUS 6	
8 mm	BUS 8		EUS 8		SUS 8		TUS 8	
10 mm	BUS 10		EUS 10		SUS 10		TUS 10	
12 mm	BUS 12		EUS 12		SUS 12		TUS 12	







Stainless Steel Fittings										
	Branch Tee		Female Connector		Male Connector		Male Elbow, Swivel		Y Connector, Swivel	
Tube OD X Thread	Part No.		Part No.		Part No.		Part No.		Part No.	
1/8" X 10-32	BTS 1/8 10-32		FCS 1/8 10-32		MCS 1/8 10-32		MES 1/8 10-32		YCS 1/8 10-32	
1/8" X 1/8" NPT	BTS 1/8 N1/8		FCS 1/8 N1/8		MCS 1/8 N1/8		MES 1/8 N1/8		YCS 1/8 N1/8	
5/32" X 10-32	BTS 5/32 10-32		FCS 5/32 10-32		MCS 5/32 10-32		MES 5/32 10-32		YCS 5/32 10-32	
5/32" X 1/8" NPT	BTS 5/32 N1/8		FCS 5/32 N1/8		MCS 5/32 N1/8		MES 5/32 N1/8		YCS 5/32 N1/8	
1/4" X 1/8" NPT	BTS 1/4 N1/8		FCS 1/4 N1/8		MCS 1/4 N1/8		MES 1/4 N1/8		YCS 1/4 N1/8	
1/4" X 1/4" NPT	BTS 1/4 N1/4		FCS 1/4 N1/4		MCS 1/4 N1/4		MES 1/4 N1/4		YCS 1/4 N1/4	
1/4" X 3/8" NPT	BTS 1/4 N3/8		FCS 1/4 N3/8		MCS 1/4 N3/8		MES 1/4 N3/8		YCS 1/4 N3/8	
5/16" X 1/4" NPT	BTS 5/16 N1/4		FCS 5/16 N1/4		MCS 5/16 N1/4		MES 5/16 N1/4		YCS 5/16 N1/4	
5/16" X 3/8" NPT	BTS 5/16 N3/8		FCS 5/16 N3/8		MCS 5/16 N3/8		MES 5/16 N3/8		YCS 5/16 N3/8	
3/8" X 1/4" NPT	BTS 3/8 N1/4		FCS 3/8 N1/4		MCS 3/8 N1/4		MES 3/8 N1/4		YCS 3/8 N1/4	
3/8" X 3/8" NPT	BTS 3/8 N3/8		FCS 3/8 N3/8		MCS 3/8 N3/8		MES 3/8 N3/8		YCS 3/8 N3/8	
3/8" X 1/2" NPT	BTS 3/8 N1/2		FCS 3/8 N1/2		MCS 3/8 N1/2		MES 3/8 N1/2		YCS 3/8 N1/2	
1/2" X 1/4" NPT	BTS 1/2 N1/4		FCS 1/2 N1/4		MCS 1/2 N1/4		MES 1/2 N1/4		YCS 1/2 N1/4	
1/2" X 3/8" NPT	BTS 1/2 N3/8		FCS 1/2 N3/8		MCS 1/2 N3/8		MES 1/2 N3/8		YCS 1/2 N3/8	
1/2" X 1/2" NPT	BTS 1/2 N1/2		FCS 1/2 N1/2		MCS 1/2 N1/2		MES 1/2 N1/2		YCS 1/2 N1/2	

4 mm X 10-32	BTS 4 M5		FCS 4 M5		MCS 4 M5		MES 4 M5		YCS 4 M5	
4 mm X 1/8" NPT	BTS 4 N1/8		FCS 4 N1/8		MCS 4 N1/8		MES 4 N1/8		YCS 4 N1/8	
8 mm X 1/4" NPT	BTS 8 N1/4		FCS 8 N1/4		MCS 8 N1/4		MES 8 N1/4		YCS 8 N1/4	
8 mm X 3/8" NPT	BTS 8 N3/8		FCS 8 N3/8		MCS 8 N3/8		MES 8 N3/8		YCS 8 N3/8	

Nickel-Plated Brass Push-In Fittings

Brass Fittings								
Name	Bulkhead Union		Elbow Union		Straight Union		Tee Union	
Tube OD	Part No.		Part No.		Part No.		Part No.	
1/8"	BUB 1/8		EUB 1/8		SUB 1/8		TUB 1/8	
5/32"	BUB 5/32		EUB 5/32		SUB 5/32		TUB 5/32	
1/4"	BUB 1/4		EUB 1/4		SUB 1/4		TUB 1/4	
5/16"	BUB 5/16		EUB 5/16		SUB 5/16		TUB 5/16	
3/8"	BUB 3/8		EUB 3/8		SUB 3/8		TUB 3/8	
1/2"	BUB 1/2		EUB 1/2		SUB 1/2		TUB 1/2	
4 mm	BUB 4		EUB 4		SUB 4		TUB 4	
6 mm	BUB 6		EUB 6		SUB 6		TUB 6	
8 mm	BUB 8		EUB 8		SUB 8		TUB 8	

Brass Fittings										
Name	Branch Tee		Female Connector		Male Connector		Male Elbow, Swivel		Y Connector, Swivel	
Tube OD X Thread	Part No.		Part No.		Part No.		Part No.		Part No.	
1/8" X 10-32	BTB 1/8 10-32		FCB 1/8 10-32		MCB 1/8 10-32		MEB 1/8 10-32		YCB 1/8 10-32	
1/8" X 1/8" NPT	BTB 1/8 N1/8		FCB 1/8 N1/8		MCB 1/8 N1/8		MEB 1/8 N1/8		YCB 1/8 N1/8	
5/32" X 10-32	BTB 5/32 10-32		FCB 5/32 10-32		MCB 5/32 10-32		MEB 5/32 10-32		YCB 5/32 10-32	
5/32" X 1/8" NPT	BTB 5/32 N1/8		FCB 5/32 N1/8		MCB 5/32 N1/8		MEB 5/32 N1/8		YCB 5/32 N1/8	
1/4" X 1/8" NPT	BTB 1/4 N1/8		FCB 1/4 N1/8		MCB 1/4 N1/8		MEB 1/4 N1/8		YCB 1/4 N1/8	
1/4" X 1/4" NPT	BTB 1/4 N1/4		FCB 1/4 N1/4		MCB 1/4 N1/4		MEB 1/4 N1/4		YCB 1/4 N1/4	
1/4" X 3/8" NPT	BTB 1/4 N3/8		FCB 1/4 N3/8		MCB 1/4 N3/8		MEB 1/4 N3/8		YCB 1/4 N3/8	
5/16" X 1/4" NPT	BTB 5/16 N1/4		FCB 5/16 N1/4		MCB 5/16 N1/4		MEB 5/16 N1/4		YCB 5/16 N1/4	
5/16" X 3/8" NPT	BTB 5/16 N3/8		FCB 5/16 N3/8		MCB 5/16 N3/8		MEB 5/16 N3/8		YCB 5/16 N3/8	
3/8" X 1/4" NPT	BTB 3/8 N1/4		FCB 3/8 N1/4		MCB 3/8 N1/4		MEB 3/8 N1/4		YCB 3/8 N1/4	
3/8" X 3/8" NPT	BTB 3/8 N3/8		FCB 3/8 N3/8		MCB 3/8 N3/8		MEB 3/8 N3/8		YCB 3/8 N3/8	
3/8" X 1/2" NPT	BTB 3/8 N1/2		FCB 3/8 N1/2		MCB 3/8 N1/2		MEB 3/8 N1/2		YCB 3/8 N1/2	
1/2" X 3/8" NPT	BTB 1/2 N3/8		FCB 1/2 N3/8		MCB 1/2 N3/8		MEB 1/2 N3/8		YCB 1/2 N3/8	
1/2" X 1/2" NPT	BTB 1/2 N1/2		FCB 1/2 N1/2		MCB 1/2 N1/2		MEB 1/2 N1/2		YCB 1/2 N1/2	
4 mm X M5	BTB 4 M5		FCB 4 M5		MCB 4 M5		MEB 4 M5		YCB 4 M5	
4 X 1/8" NPT	BTB 4 N1/8		FCB 4 N1/8		MCB 4 N1/8		MEB 4 N1/8		YCB 4 N1/8	
8 mm X 1/4" NPT	BTB 8 N1/4		FCB 8 N1/4		MCB 8 N1/4		MEB 8 N1/4		YCB 8 N1/4	
8 mm X 3/8" NPT	BTB 8 N3/8		FCB 8 N3/8		MCB 8 N3/8		MEB 8 N3/8		YCB 8 N3/8	

Metal Fittings							
Name	Quick Exhaust	Shuttle Valve	In-line Flow Control	In-line Flow Control	Speed Control Muffler	Muffler	Union Valve
MODEL	QE	ST	ASC	AS	BESL	BSL	UV
PORT	NPT	NPT	NPT	NPT	NPT	NPT	
10-32			ASC 10-32		BESL 10-32	BSL 10-32	
1/8	QE N1/8	ST N1/8	ASC N1/8	AS N1/8	BESL N1/8	BSL N1/8	UV 1/4-1/4
1/4	QE N1/4	ST N1/4	ASC N1/4	AS N1/4	BESL N1/4	BSL N1/4	UV 6-6
3/8	QE N3/8	ST N3/8	ASC N3/8	AS N3/8	BESL N3/8	BSL N3/8	
1/2	QE N1/2	ST N1/2	ASC N1/2	AS N1/2	BESL N1/2	BSL N1/2	
3/4	QE N3/4	ST N3/4					

Composite, Stainless Steel, and Nickel-Plated Brass Push-In Fittings Specifications

A. Installation of Pipe Fittings:

1. Tighten fitting by hand, then turn it 2 to 3 turns with a wrench until it reaches the desire torque listed. If the fitting is not pre-coated with sealant, or is used and the sealant is not in good condition, apply Teflon sealant tape to the threads.

Recommendation of Torque for Tightening Fittings		
Fitting Thread Size	Torque, lb-ft	Torque, kgf/cm
10-32, M5 -M6	1.0 -1.5	14 -21
NPT1/8, R1/8	5 -6.5	70 -90
NPT1/4, R1/4	8.5 -10	120 -140
NPT3/8, R3/8	16 -17.5	220 -240
NPT1/2, R1/2	20 -21.5	280 -300

B. Installation of Tubing into Fitting:

1. Slowly push a clean and perpendicularly cut tubing into the fitting until it comes to a dead stop.
2. Pull the tubing back gently until the Grip Ring or Collet of the fitting grips onto the tubing and has a good seal.
3. Use Polyethylene, Polypropylene, Polyurethane or Nylon Tubing designed for instant fittings.
Hard metal tubing can be used for all metal Stainless Steel and all Brass fittings if tubing is pre-grooved.

C. Removal of Tubing from Fitting:

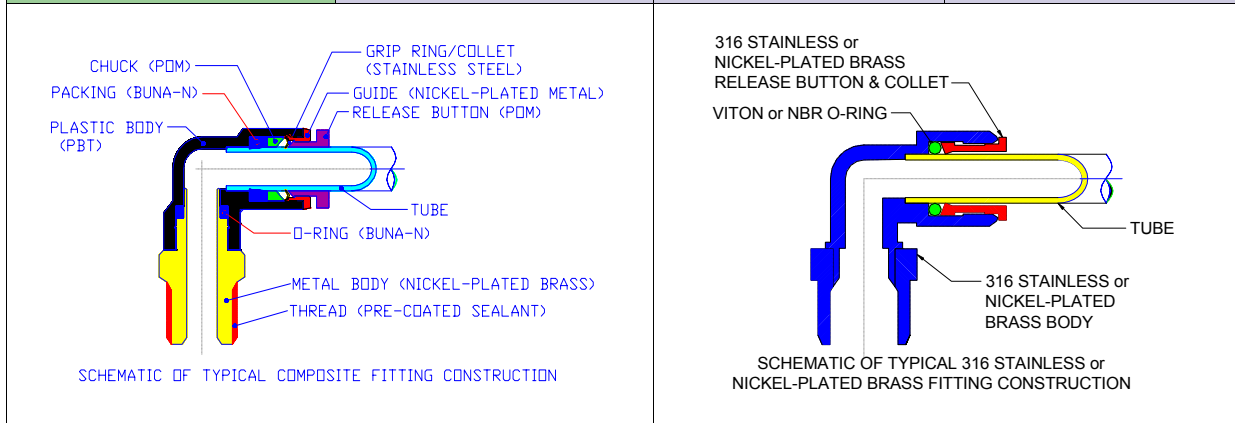
1. Push in evenly on the two long oval sides of the Release Button.
2. Pull out the tube while keeping the Release Button depressed.
3. To reuse the tubing; cut off the lodged portion of the previously used tubing evenly and perpendicularly.

D. Recommended Tubing Material, Size and Hardness Requirements:

Tubing Material	Specified Size	Hardness (Durometer)
Polyurethane	+/- 0.006" (+/-0.15 mm)	Shore A 85 or higher
Polyethylene	+/- 0.004" (+/-0.1 mm)	Shore D 44 or higher
Polypropylene	+/- 0.004" (+/-0.1 mm)	Shore D 44 or higher
Nylon	+/- 0.004" (+/-0.1 mm)	Shore D 44 or higher
Pre-grooved Metal Tubing	+/- 0.004" (+/-0.1 mm)	

E. Specifications, Materials of Construction and Schematic of Typical Construction:

	Composite Fittings	Stainless Steel Fittings	Nickel-Plated Brass Fittings
Operating Pressure Range	0 - 150 PSI (0 - 990 kpa)	0 - 250 PSI (0 - 1650 kpa)	0 - 250 PSI (0 - 1650 kpa)
Vacuum	0 - 29.5 in Hg (750 mm Hg)	0 - 29.5 in Hg (750 mm Hg)	0 - 29.5 in Hg (750 mm Hg)
Operating Temperature	32 - 140 °F (0 - 60 °C)	5 - 230 °F (-15 to 110 °C)	5 - 230 °F (-15 to 110 °C)
Recommended Tubing Material	Polyurethane, Nylon, Polyethylene, Polypropylene	Polyurethane, Nylon, Polyethylene, Polypropylene, and Hard metal tubing (tubing must be pre-grooved)	
Metal Body	Brass, Nickel Plated	T316 Stainless Steel	Nickel-Plated Brass
Plastic Body	PBT (Polybutylene terephthalate)	None	None
Release Button	POM (Poly oxy methylene copolymer)	300 series Stainless Steel	Nickel-Plated Brass
Grip Ring or Collet	300 series Stainless Steel	300 series Stainless Steel	300 series Stainless Steel
O-ring	NBR (Buna-N)	VITON	NBR/VITON/EPDM
Thread Sealant	Teflon	None	Teflon













A Series Filter Regulator Lubricator

	Part No.	Description (* Includes Bracket & Gauge)
 <p>Includes Bracket & Gauge</p>	AC1000-M5	M5/10-32 Filter- Regulator- Lubricator* (3 SCFM)
	AC2000-01	1/8" NPT Filter- Regulator- Lubricator* (18 SCFM)
	AC2000-01D	1/8" NPT Filter- Regulator- Lubricator* with Auto Drain (18 SCFM)
	AC2000-01M	1/8" NPT Filter- Regulator- Lubricator* Metal Bowl (18 SCFM)
	AC2000-01DM	1/8" NPT Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (18 SCFM)
	AC2000-02	1/4" NPT Filter- Regulator- Lubricator* (18 SCFM)
	AC2000-02D	1/4" NPT Filter- Regulator- Lubricator* with Auto Drain (18 SCFM)
	AC2000-02M	1/4" NPT Filter- Regulator- Lubricator* Metal Bowl (18 SCFM)
	AC2000-02DM	1/4" NPT Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (18 SCFM)
	 <p>Includes Bracket & Gauge</p>	AC3000-02
AC3000-02D		1/4" NPT Filter- Regulator- Lubricator* with Auto Drain (70 SCFM)
AC3000-02M		1/4" NPT Filter- Regulator- Lubricator* with Metal Bowl (70 SCFM)
AC3000-02DM		1/4" NPT Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (70 SCFM)
AC3000-03		3/8" NPT Filter- Regulator- Lubricator* (70 SCFM)
AC3000-03D		3/8" NPT Filter- Regulator- Lubricator* with Auto Drain (70 SCFM)
AC3000-03M		3/8" NPT Filter- Regulator- Lubricator* with Metal Bowl (70 SCFM)
AC3000-03DM		3/8" NPT Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (70 SCFM)
AC4000-03		3/8" NPT Filter- Regulator- Lubricator* (140 SCFM)
AC4000-03D		3/8" NPT Filter- Regulator- Lubricator* with Auto Drain (140 SCFM)
AC4000-03M		3/8" NPT Filter- Regulator- Lubricator* with Metal Bowl (140 SCFM)
AC4000-03DM		3/8" NPT Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (140 SCFM)
AC4000-04		1/2" NPT Filter- Regulator- Lubricator* (140 SCFM)
AC4000-04D		1/2" NPT Filter- Regulator- Lubricator* with Auto Drain (140 SCFM)
AC4000-04M		1/2" NPT Filter- Regulator- Lubricator* with Metal Bowl (140 SCFM)
AC4000-04DM		1/2" NPT Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (140 SCFM)
AC4000-06		3/4" NPT Filter- Regulator- Lubricator* (160 SCFM)
AC4000-06D		3/4" NPT Filter- Regulator- Lubricator* with Auto Drain (160 SCFM)
AC4000-06M	3/4" NPT Filter- Regulator- Lubricator* with Metal Bowl (160 SCFM)	
AC4000-06DM	3/4" NPT Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (160 SCFM)	
AC5000-10	1" NPT Filter- Regulator- Lubricator* (180 SCFM)	
AC5000-10D	1" NPT Filter- Regulator- Lubricator* with Auto Drain (180 SCFM)	
AC5000-10M	1" NPT Filter- Regulator- Lubricator* with Metal Bowl (180 SCFM)	
AC5000-10DM	1" NPT Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (180 SCFM)	
 <p>Includes Bracket & Gauge</p>	AC1010-M5	M5/10-32 Stacking Filter- Regulator- Lubricator* (3 SCFM)
	AC2010-01	1/8" NPT Stacking Filter- Regulator- Lubricator* (18 SCFM)
	AC2010-01D	1/8" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain (18 SCFM)
	AC2010-01M	1/8" NPT Stacking Filter- Regulator- Lubricator* with Metal Bowl (18 SCFM)
	AC2010-01DM	1/8" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (18 SCFM)
	AC2010-02	1/4" NPT Stacking Filter- Regulator- Lubricator* (18 SCFM)
	AC2010-02D	1/4" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain (18 SCFM)
	AC2010-02M	1/4" NPT Stacking Filter- Regulator- Lubricator* with Metal Bowl (18 SCFM)
	AC2010-02DM	1/4" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (18 SCFM)
	AC3010-02	1/4" NPT Stacking Filter- Regulator- Lubricator* (60 SCFM)
AC3010-02D	1/4" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain (60 SCFM)	
AC3010-02M	1/4" NPT Stacking Filter- Regulator- Lubricator* with Metal Bowl (60 SCFM)	
AC3010-02DM	1/4" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (60 SCFM)	
AC3010-03	3/8" NPT Stacking Filter- Regulator- Lubricator* (60 SCFM)	
AC3010-03D	3/8" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain (60 SCFM)	
AC3010-03M	3/8" NPT Stacking Filter- Regulator- Lubricator* with Metal Bowl (60 SCFM)	
AC3010-03DM	3/8" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (60 SCFM)	
AC4010-03	3/8" NPT Stacking Filter- Regulator- Lubricator* (105 SCFM)	
AC4010-03D	3/8" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain (105 SCFM)	
AC4010-03M	3/8" NPT Stacking Filter- Regulator- Lubricator* with Metal Bowl (105 SCFM)	
AC4010-03DM	3/8" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (105 SCFM)	
AC4010-04	1/2" NPT Stacking Filter- Regulator- Lubricator* (105 SCFM)	
AC4010-04D	1/2" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain (105 SCFM)	
AC4010-04M	1/2" NPT Stacking Filter- Regulator- Lubricator* with Metal Bowl (105 SCFM)	
AC4010-04DM	1/2" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (105 SCFM)	
AC4010-06	3/4" NPT Stacking Filter- Regulator- Lubricator* (105 SCFM)	
AC4010-06D	3/4" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain (105 SCFM)	
AC4010-06M	3/4" NPT Stacking Filter- Regulator- Lubricator* with Metal Bowl (105 SCFM)	
AC4010-06DM	3/4" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (105 SCFM)	
AC5010-10	1" NPT Stacking Filter- Regulator- Lubricator* (140 SCFM)	
AC5010-10D	1" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain (140 SCFM)	
AC5010-10M	1" NPT Stacking Filter- Regulator- Lubricator* with Metal Bowl (140 SCFM)	
AC5010-10DM	1" NPT Stacking Filter- Regulator- Lubricator* with Auto Drain & Metal Bowl (140 SCFM)	
 <p>Includes Bracket & Gauge</p>	AR1000-M5	M5/10-32 Regulator* (4 SCFM)
	AR2000-01	1/8" NPT Regulator* (19 SCFM)
	AR2000-02	1/4" NPT Regulator* (19 SCFM)
	AR2500-02	1/4" NPT Regulator* (50 SCFM)
	AR3000-02	1/4" NPT Regulator* (88 SCFM)
	AR3000-03	3/8" NPT Regulator* (88 SCFM)
	AR4000-03	3/8" NPT Regulator* (210 SCFM)
	AR4000-04	1/2" NPT Regulator* (210 SCFM)
	AR4000-06	3/4" NPT Regulator* (210 SCFM)
	AR5000-10	1" NPT Regulator* (280 SCFM)

A Series Filter Regulator Lubricator

	Part No.	Description (* Includes Bracket & Gauge)	
	AF1000-M5	M5 Filter (4 SCFM)	
	AF2000-01	1/8" NPT Filter (26 SCFM)	
	AF2000-01D	1/8" NPT Filter with Auto Drain (26 SCFM)	
	AF2000-01M	1/8" NPT Filter with Metal Bowl (26 SCFM)	
	AF2000-01DM	1/8" NPT Filter with Auto Drain & Metal Bowl (26 SCFM)	
	AF2000-02	1/4" NPT Filter (26 SCFM)	
	AF2000-02D	1/4" NPT Filter with Auto Drain (26 SCFM)	
	AF2000-02M	1/4" NPT Filter with Metal Bowl (26 SCFM)	
	AF2000-02DM	1/4" NPT Filter Auto Drain & Metal Bowl (26 SCFM)	
	AF3000-02	1/4" NPT Filter (70 SCFM)	
	AF3000-02D	1/4" NPT Filter with Auto Drain (70 SCFM)	
	AF3000-02M	1/4" NPT Filter with Metal Bowl (70 SCFM)	
	AF3000-02DM	1/4" NPT Filter Auto Drain & Metal Bowl (70 SCFM)	
	 <p style="font-size: small;">With Metal Bowl</p>  <p style="font-size: small;">Polycarbonate Bowl with Metal Shield</p>	AF3000-03	3/8" NPT Filter (70 SCFM)
AF3000-03D		3/8" NPT Filter with Auto Drain (70 SCFM)	
AF3000-03M		3/8" NPT Filter with Metal Bowl (70 SCFM)	
AF3000-03DM		3/8" NPT Filter Auto Drain & Metal Bowl (70 SCFM)	
AF4000-03		3/8" NPT Filter (140 SCFM)	
AF4000-03D		3/8" NPT Filter with Auto Drain (140 SCFM)	
AF4000-03M		3/8" NPT Filter with Metal Bowl (140 SCFM)	
AF4000-03DM		3/8" NPT Filter Auto Drain & Metal Bowl (140 SCFM)	
AF4000-04		1/2" NPT Filter (140 SCFM)	
AF4000-04D		1/2" NPT Filter with Auto Drain (140 SCFM)	
AF4000-04M		1/2" NPT Filter with Metal Bowl (140 SCFM)	
AF4000-04DM		1/2" NPT Filter Auto Drain & Metal Bowl (140 SCFM)	
AF4000-06		3/4" NPT Filter (210 SCFM)	
AF4000-06D		3/4" NPT Filter with Auto Drain (210 SCFM)	
AF4000-06M	3/4" NPT Filter with Metal Bowl (210 SCFM)		
AF4000-06DM	3/4" NPT Filter Auto Drain & Metal Bowl (210 SCFM)		
	AF5000-10	1" NPT Filter (245 SCFM)	
	AF5000-10D	1" NPT Filter with Auto Drain (245 SCFM)	
	AF5000-10M	1" NPT Filter with Metal Bowl (245 SCFM)	
	AF5000-10DM	1" NPT Filter with Auto Drain & Metal Bowl (245 SCFM)	
	AL1000-M5	M5 Lubricator (3 SCFM)	
	AL2000-01	1/8" NPT Lubricator (28 SCFM)	
	AL2000-01M	1/8" NPT Lubricator with Metal Bowl (28 SCFM)	
	AL2000-02	1/4" NPT Lubricator (28 SCFM)	
	AL2000-02M	1/4" NPT Lubricator with Metal Bowl (28 SCFM)	
	AL3000-02	1/4" NPT Lubricator (60 SCFM)	
	AL3000-02M	1/4" NPT Lubricator with Metal Bowl (60 SCFM)	
	AL3000-03	3/8" NPT Lubricator (60 SCFM)	
	AL3000-03M	3/8" NPT Lubricator with Metal Bowl (60 SCFM)	
	AL4000-03	3/8" NPT Lubricator (180 SCFM)	
AL4000-03M	3/8" NPT Lubricator with Metal Bowl (180 SCFM)		
AL4000-04	1/2" NPT Lubricator (180 SCFM)		
AL4000-04M	1/2" NPT Lubricator with Metal Bowl (180 SCFM)		
AL4000-06	3/4" NPT Lubricator (220 SCFM)		
AL4000-06M	3/4" NPT Lubricator with Metal Bowl (220 SCFM)		
AL5000-10	1" NPT Lubricator (245 SCFM)		
AL5000-10M	1" NPT Lubricator with Metal Bowl (245 SCFM)		
 <p style="font-size: small;">Includes Bracket & Gauge</p>	AW1000-M5	M5 Filter- Regulator* (3 SCFM)	
	AW2000-01	1/8" NPT Filter- Regulator* (19 SCFM)	
	AW2000-01D	1/8" NPT Filter- Regulator* with Auto Drain (19 SCFM)	
	AW2000-01M	1/8" NPT Filter- Regulator* with Metal Bowl (19 SCFM)	
	AW2000-01DM	1/8" NPT Filter- Regulator* Auto Drain & Metal Bowl (19 SCFM)	
	AW2000-02	1/4" NPT Filter- Regulator* (19 SCFM)	
	AW2000-02D	1/4" NPT Filter- Regulator* with Auto Drain (19 SCFM)	
	AW2000-02M	1/4" NPT Filter- Regulator* with Metal Bowl (19 SCFM)	
	AW2000-02DM	1/4" NPT Filter- Regulator* Auto Drain & Metal Bowl (19 SCFM)	
	AW3000-02	1/4" NPT Filter- Regulator* (70 SCFM)	
	AW3000-02D	1/4" NPT Filter- Regulator* with Auto Drain (70 SCFM)	
	AW3000-02M	1/4" NPT Filter- Regulator* with Metal Bowl (70 SCFM)	
	AW3000-02DM	1/4" NPT Filter- Regulator* Auto Drain & Metal Bowl (70 SCFM)	
	AW3000-03	3/8" NPT Filter- Regulator* (70 SCFM)	
AW3000-03D	3/8" NPT Filter- Regulator* with Auto Drain (70 SCFM)		
AW3000-03M	3/8" NPT Filter- Regulator* with Metal Bowl (70 SCFM)		
AW3000-03DM	3/8" NPT Filter- Regulator* Auto Drain & Metal Bowl (70 SCFM)		
AW4000-03	3/8" NPT Filter- Regulator* (140 SCFM)		
AW4000-03D	3/8" NPT Filter- Regulator* with Auto Drain (140 SCFM)		
AW4000-03M	3/8" NPT Filter- Regulator* with Metal Bowl (140 SCFM)		
AW4000-03DM	3/8" NPT Filter- Regulator* Auto Drain & Metal Bowl (140 SCFM)		
AW4000-04	1/2" NPT Filter- Regulator* (140 SCFM)		
AW4000-04D	1/2" NPT Filter- Regulator* with Auto Drain (140 SCFM)		
AW4000-04M	1/2" NPT Filter- Regulator* with Metal Bowl (140 SCFM)		
AW4000-04DM	1/2" NPT Filter- Regulator* Auto Drain & Metal Bowl (140 SCFM)		
AW4000-06	3/4" NPT Filter- Regulator* (160 SCFM)		
AW4000-06D	3/4" NPT Filter- Regulator* with Auto Drain (160 SCFM)		
AW4000-06M	3/4" NPT Filter- Regulator* with Metal Bowl (160 SCFM)		
AW4000-06DM	3/4" NPT Filter- Regulator* Auto Drain & Metal Bowl (160 SCFM)		
AW5000-10	1" NPT Filter- Regulator* (195 SCFM)		
AW5000-10D	1" NPT Filter- Regulator* with Auto Drain (195 SCFM)		
AW5000-10M	1" NPT Filter- Regulator* with Metal Bowl (195 SCFM)		
AW5000-10DM	1" NPT Filter- Regulator* Auto Drain & Metal Bowl (195 SCFM)		
 <p style="font-size: small;">Includes Bracket & Gauge</p>			

A Series FRL Mounting Hardware

	Part No.	Description	List Price
	Y20	Spacer for AC2000	
	Y30	Spacer for AC3000	
	Y40	Spacer for AC4000-04	
	Y50	Spacer for AC4000-06	
	Y60	Spacer for AC5000	
	Y20L	L-Type Spacer Bracket for AC2000	
	Y30L	L-Type Spacer Bracket for AC3000	
	Y40L	L-Type Spacer Bracket for AC4000-04	
	Y50L	L-Type Spacer Bracket for AC4000-06	
	Y60L	L-Type Spacer Bracket for AC5000	
	Y20T	T-Type Spacer Bracket for AC2010	
	Y30T	T-Type Spacer Bracket for AC3010	
	Y40T	T-Type Spacer Bracket for AC4010-04	
	Y50T	T-Type Spacer Bracket for AC4010-06	
	Y60T	T-Type Spacer Bracket for AC5010	
	Y21-N01	T-Type Spacer with 1/8 NPT Port for AC2000	
	Y21-N02	T-Type Spacer with 1/4 NPT Port for AC2000	
	Y31-N01	T-Type Spacer with 1/8 NPT Port for AC3000	
	Y31-N02	T-Type Spacer with 1/4 NPT Port for AC3000	
	Y41-N02	T-Type Spacer with 1/4 NPT Port for AC4000	
	Y41-N03	T-Type Spacer with 3/8 NPT Port for AC4000	
	Y61-N03	T-Type Spacer with 3/8 NPT Port for AC5000	
	B110L	L-Bracket for AC1000	
	B210L	L-Bracket for AC2000	
	B310L	L-Bracket for AC3000	
	B410L	L-Bracket for AC4000	
	B510L	L-Bracket for AC4000-06	
	B110T	T-Bracket for AC1010	
	B210T	T-Bracket for AC2010	
	B310T	T-Bracket for AC3010	
	B410T	T-Bracket for AC4010	
	B510T	L-Bracket for AC4010-06	
	B120	Bracket for AR/AW1000	
	B220	Bracket for AR/AW2000	
	B320	Bracket for AR/AW3000	
	B420	Bracket for AR/AW4000-5000	
	B240	Bracket for AF/AL2000	
	B340	Bracket for AF/AL3000	
	B440	Bracket for AF/AL4000-04	
	B540	Bracket for AF/AL4000-06	
	B640	Bracket for AF/AL5000	
	GE-1-160-00	1" Dia. 1/16" R 0-160 PSI back mount pressure gauge	
	GE-1 1/2-30-01	1 1/2" Dia. 1/8" NPT 0-30 PSI back mount pressure gauge	
	GE-1 1/2-60-01	1 1/2" Dia. 1/8" NPT 0-60 PSI back mount pressure gauge	
	GE-1 1/2-160-01	1 1/2" Dia. 1/8" NPT 0-160 PSI back mount pressure gauge	
	GP-1 1/2-160-01	1 1/2" Dia. 1/8" NPT 0-160 PSI panel mount pressure gauge	
	GE-2-30-02	2" Dia. 1/4" NPT 0-30 PSI back mount pressure gauge	
	GE-2-60-02	2" Dia. 1/4" NPT 0-60 PSI back mount pressure gauge	
	GE-2-160-02	2" Dia. 1/4" NPT 0-160 PSI back mount pressure gauge	
	GP-2-160-02	2" Dia. 1/4" NPT 0-160 PSI panel mount pressure gauge	
	GA-1 1/2-60-01	1.5" Dia. 1/8" NPT 0-60 PSI SS housing back mount glycerin filled	
	GA-1 1/2-160-01	1.5" Dia. 1/8" NPT 0-160 PSI SS housing back mount glycerin filled	
	VHS2000-01	1/8" NPT Relieving Shut-off /Lockout Valve for 2000-01 Series FRL	
	VHS2000-02	1/4" NPT Relieving Shut-off /Lockout Valve for 2000-02 Series FRL	
	VHS3000-02	1/4" NPT Relieving Shut-off /Lockout Valve for 3000-02 Series FRL	
	VHS3000-03	3/8" NPT Relieving Shut-off /Lockout Valve for 3000-03 Series FRL	
	VHS4000-03	3/8" NPT Relieving Shut-off /Lockout Valve for 4000-03 Series FRL	
	VHS4000-04	1/2" NPT Relieving Shut-off /Lockout Valve for 4000-04 Series FRL	
	VHS4000-06	3/4" NPT Relieving Shut-off /Lockout Valve for 4000-06 Series FRL	
	VHS5000-10	1" NPT Relieving Shut-off /Lockout Valve for 5000 Series FRL	






Solenoid Valve

To Order, Please Specify: 1. Model No. 2. Voltage 3. Electrical Entry Options

	Part No.		Voltage & Electrical Connection Options	Port Size (NPT)	# Way/Port/Position/ Solenoid	Cv	Power		
	2V025-1/8		A. Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC B. Terminal Options: D = DIN (with LED indicator & Conduit Terminal) G = Grommet (12" Lead Wire)	1/8	2/2/2/1 Direct Acting	0.23	3W to 6.5 W		
	2V025-1/4			1/4					
	2V035-1/8			1/8	3/2/2/1 Direct Acting	0.1			
	2V035-1/4			1/4					
	2P025-1/8				1/8	2/2/2/1 Direct Acting		0.23	
	2P025-1/4			1/4					
	2P035-1/8			1/8	3/2/2/1 Direct Acting	0.1			
	2P035-1/4			1/4					
	2V1-1/8				1/8	2/2/2/1 Direct Acting		0.23	
	3V1-1/8				1/8	3/2/2/1 Direct Acting		0.1	
	3V110-1/8				1/8	3/3/2/1		0.67	2.5 W
	3V210-1/4				1/4, 1/8 (Exh)			0.89	3 W
	3V310-3/8				3/8, 1/4 (Exh)			1.68	3 W
	3V410-1/2				1/2			2.79	3 W
	3V120-1/8				1/8	3/3/2/2		0.67	2.5 W
	3V220-1/4				1/4, 1/8 (Exh)			0.89	3 W
	3V320-3/8				3/8, 1/4 (Exh)			1.68	3 W
	3V420-1/2				1/2			2.79	3 W
	4V110-1/8				1/8	4/5/2/1		0.67	2.5 W
	4V210-1/4				1/4, 1/8 (Exh)			0.89	3 W
	4V310-3/8			3/8, 1/4 (Exh)	1.68		3 W		
	4V410-1/2			1/2	2.79		3 W		
	3V310B-1/4			1/4	3/3/2/1	1.68	3 W		
	4V310B-1/4			1/4	4/5/2/1	1.68	3 W		
	4V310B-3/8			3/8, 1/4 (Exh)		1.68	3 W		
	4V120-1/8			1/8	4/5/2/2	0.67	2.5 W		
	4V220-1/4			1/4, 1/8 (Exh)		0.89	3 W		
	4V320-3/8			3/8, 1/4 (Exh)		1.68	3 W		
	4V420-1/2			1/2		2.79	3 W		
	4V130C-1/8			1/8	4/5/3/2 Closed Center	0.5	2.5 W		
	4V230C-1/4			1/4, 1/8 (Exh)		0.67	3 W		
	4V330C-3/8			3/8, 1/4 (Exh)		1	3 W		
	4V430C-1/2			1/2	4/5/3/2 Pressure Center	1.68	3 W		
	4V130P-1/8			1/8		0.5	2.5 W		
	4V230P-1/4			1/4, 1/8 (Exh)		0.67	3 W		
	4V330P-3/8			3/8, 1/4 (Exh)	4/5/3/2 Exhaust Center	1	3 W		
	4V430P-1/2			1/2		1.68	3 W		
	4V130E-1/8			1/8		0.5	2.5 W		
	4V230E-1/4				1/4, 1/8 (Exh)	0.67	3 W		
	4V330E-3/8				3/8, 1/4 (Exh)	1	3 W		
	4V430E-1/2				1/2	1.68	3 W		



	Part No.	Price	Voltage Options	Electrical Connection Options	Power Consumption	Specifications		
	100C		Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	D = DIN (with LED indicator, conduit terminal)	2.5 W	Insulation: F Class IP65; Duty Cycle: 100% ED; CE Certification	To connect DIN coil: 1. Remove the Philip screw from the plastic housing and unplug it from the DIN coil. 2. From the screw opening, use the screw to push the terminal block out of the plastic housing. 3. Note the 1, 2 and ground markings on underside of DIN enclosure. 4. For DC DIN Coil, Connect 1 to Positive, 2 to Negative. 5. For AC DIN Coil, connect 1 to HOT wire, 2 to Neutral wire, and if required connect ground to ground wire. To connect Grommet coil: 1. For DC Coil, connect one of the two wires to Positive, and the other wire to Negative. 2. For AC Coil, connect one of the two wires to HOT wire,	
	200C				3W			
	100C				G = Grommet (12" Lead Wire)			2.5 W
	200C			3 W				

Air Pilot Valve

	Part No.	Port Size (NPT)	# Ways/Port/Position/Pilot	Cv		Part No.	Port Size (NPT)	# Ways/Port/Position/Pilot	Cv
	3A110-1/8	1/8	3/3/2/1	0.67		4A130C-1/8	1/8	4/5/3/2 Closed Center	0.5
	3A210-1/4	1/4, 1/8 (Exh)		0.89		4A230C-1/4	1/4, 1/8 (Exh)		0.67
	3A310-3/8	3/8, 1/4 (Exh)		1.68		4A330C-3/8	3/8, 1/4 (Exh)		1
	3A410-1/2	1/2		2.79		4A430C-1/2	1/2		1.68
	3A120-1/8	1/8	3/3/2/2	0.67		4A130P-1/8	1/8	4/5/3/2 Pressure Center	0.5
	3A220-1/4	1/4, 1/8 (Exh)		0.89		4A230P-1/4	1/4, 1/8 (Exh)		0.67
	3A320-3/8	3/8, 1/4 (Exh)		1.68		4A330P-3/8	3/8, 1/4 (Exh)		1
	3A420-1/2	1/2		2.79		4A430P-1/2	1/2		1.68
	4A110-1/8	1/8	4/5/2/1	0.67		4A130E-1/8	1/8	4/5/3/2 Exhaust Center	0.5
	4A210-1/4	1/4, 1/8 (Exh)		0.89		4A230E-1/4	1/4, 1/8 (Exh)		0.67
	4A310-3/8	3/8, 1/4 (Exh)		1.68		4A330E-3/8	3/8, 1/4 (Exh)		1
	4A410-1/2	1/2		2.79		4A430E-1/2	1/2		1.68
	4A120-1/8	1/8	4/5/2/2	0.67					
	4A220-1/4	1/4, 1/8 (Exh)		0.89					
	4A320-3/8	3/8, 1/4 (Exh)		1.68					
	4A420-1/2	1/2		2.79					

Integrated Aluminum Base Mounted Manifolds*

To Order, Please Specify: 1. Model No. 2. Voltage 3. Electrical Entry Options

	Part No.	Number of Stations	Description		Part No.	Number of Stations	Description
	3V-100M-2	2 stations	Integrated Base for Mounting 3V100 or 3A100 series Solenoid Valves		4V-100M-2	2 station	Integrated Base for Mounting 4V100 or 4A100 series Solenoid Valves
	3V-100M-4	4 stations			4V-100M-4	4 station	
	3V-100M-6	6 stations			4V-100M-6	6 station	
	3V-100M-8	8 stations			4V-100M-8	8 stations	
	3V-100M-16	16 stations			4V-100M-16	16 stations	
	3V-100M-B	blank plate			4V-100M-B	blank plate	
	3V-200M-2	2 stations	Integrated Base for Mounting 3V200 or 3A200 series Solenoid Valves		4V-200M-2	2 stations	Integrated Base for Mounting 4V200 or 4A200 series Solenoid Valves
	3V-200M-4	4 stations			4V-200M-4	4 stations	
	3V-200M-6	6 stations			4V-200M-6	6 stations	
	3V-200M-8	8 stations			4V-200M-8	8 stations	
	3V-200M-16	16 stations			4V-200M-16	16 stations	
	3V-200M-B	blank plate			4V-200M-B	blank plate	
	3V-300M-2	2 stations	Integrated Base for Mounting 3V300 or 3A300 series Solenoid Valves		4V-300M-2	2 stations	Integrated Base for Mounting 4V300 or 4A300 series Solenoid Valves
	3V-300M-4	4 stations			4V-300M-4	4 stations	
	3V-300M-6	6 stations			4V-300M-6	6 stations	
	3V-300M-8	8 stations			4V-300M-8	8 stations	
3V-300M-16	16 stations	4V-300M-16		16 stations			
3V-300M-B	blank plate	4V-300M-B		blank plate			
3V-400M-2	2 stations	Integrated Base for Mounting 3V400 or 3A400 series Solenoid Valves	4V-400M-2	2 stations	Integrated Base for Mounting 4V400 or 4A400 series Solenoid Valves		
3V-400M-4	4 stations		4V-400M-4	4 stations			
3V-400M-6	6 stations		4V-400M-6	6 stations			
3V-400M-8	8 stations		4V-400M-8	8 stations			
3V-400M-16	16 stations		4V-400M-16	16 stations			
3V-400M-B	blank plate		4V-400M-B	blank plate			

* Includes mounting hardware and seals

Specifications

Valve Type	3V & 4V 100-400 Series Valves	2V1, 3V1, 2V025-035 2P025-035 Series Valves	3A & 4A 100-400 Series Valves
Port & Mounting	Body Ported, Manifold Mounted	Body Ported, Stacking or Manifold Mounted	Body Ported, Manifold Mounted
Action & Motion	Internal Pilot, Spool Design	Direct Acting	Air Pilot, Spool Design
Operating Pressure	21 to 115 PSI	Vacuum to 115 PSI	0 to 115 PSI
Coil Insulation & Protection Class	F Class, IP65 (CE Certification)	F Class, IP65 (CE Certification)	N/A
Coil Duty Cycle	100% ED	100% ED	100% ED
Manual Override	Non-Locking: 100 series,	Non-Locking	N/A
Electrical Connection	D = DIN (with LED indicator, conduit terminal)		N/A
Working Medium	40 micron filtered air or inert gas	40 micron filtered air, inert gas & liquid	40 micron filtered air or inert gas
Maximum Pressure	180 PSI		
Operating Temperature	14 to 140 Deg. F (-10 to 60 Deg. C)		
Body Material	Aluminum (Engineered Plastic for 2P Series)		
Seal Material	NBR (Buna N)		
Lubrication	Not Required		

Solenoid & Process Valves

To Order, Please Specify: 1. Model No. 2. Voltage


	Part No.		Port Size (NPT)	Cv	Voltage	Features		
	2P025-1/8		1/8	0.23	Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	2 Way, Direct Acting, Normally Closed Operating Temp: -5 to 80 deg. C Operating Pressure: Vacuum to 115 PSI Coil: F Class, IP65, 100% ED Service: Air, Gas, Liquid Seals: NBR, (Viton Option) Body Material: 2P Series: Engineered Plastic 2S Series: 304 Stainless Steel Body 2V Series: Anodized Aluminum Body 2W Series: Brass		
	2P025-1/4		1/4	0.23				
	2S025-1/4		1/4	0.23				
	2S040-3/8		3/8	0.6				
	2V025-1/8		1/8	0.23				
	2V025-1/4		1/4	0.23				
	2W025-1/4		1/4	0.23				
	2W040-3/8		3/8	0.6				
	2W160-3/8		3/8	4.8			Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	2 Way, Direct Acting/Lift, Normally Closed Operating Temp: -5 to 80 deg. C Operating Pressure: Vacuum to 115 PSI Coil: F Class, IP65, 100% ED Service: Air, Gas, Liquid Seals: NBR, (Viton Option) Body Material: Brass
	2W160-1/2		1/2	4.8				
	2W200-3/4		3/4	7.6				
	2W250-1		1	12				
	2W350-1 1/4		1 1/4	24				
	2W400-1 1/2		1 1/2	29				
	2W500-2		2	48				
	2S160-3/8		3/8	4.8	Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	2 Way, Direct Acting/Lift, Normally Closed Operating Temp: -5 to 80 deg. C Operating Pressure: Vacuum to 115 PSI Coil: F Class, IP65, 100% ED Service: Air, Gas, Liquid Seals: NBR, (Viton Option) Body Material: 304 Stainless Steel		
	2S160-1/2		1/2	4.8				
	2S200-3/4		3/4	7.6				
	2S250-1		1	12				
	2S350-1 1/4		1 1/4	24				
	2S400-1 1/2		1 1/2	29				
	2S500-2		2	48				
	QW-1/2		1/2	4.8	Pilot Pressure: 80-150 PSI	2 Way, Direct Acting, NC Operating Temp -5 to 80 deg. C Operating Pressure: 100 PSI Service: Air, Water, Oil, Gas Seals: Teflon Body Material: Brass		
	QW-3/4		3/4	7.6				
	QW-1		1	12				
	QW-1 1/2		1 1/2	29				
	QW-2		2	48				

Solenoid & Process Valves

To Order, Please Specify: 1. Model No. 2. Voltage

	Part No.		Port Size (NPT)	Cv	Voltage	Features
	2WO 160-3/8		3/8	4.8	Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	Normally Open 2 Way, Direct Acting/Lift, Operating Temp: -5 to 80 deg. C Operating Pressure: Vacuum to 115 PSI Coil: F Class, IP65, 100% ED Service: Air, Liquid Seals: NBR (Option: Viton, EPDM) Body Material: 2S Series: 304 Stainless Steel 2W Series: Brass
	2WO 160-1/2		1/2	4.8		
	2WO 200-3/4		3/4	7.6		
	2WO 250-1		1	12		
	2WO 350-1 1/4		1 1/4	24		
	2WO 400-1 1/2		1 1/2	29		
	2WO 500-2		2	48		
	2SO 160-3/8		3/8	4.8	Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	Normally Closed, 2 Way, Direct Acting Brass Body, Seals: PTFE Operating Temp: -5 to 150 deg. C Operating Pressure: 215 PSI Coil: F Class, IP65, 100% ED Service: Air, Liquid, Steam Installation: Vertical Coil Position
	2SO 160-1/2		1/2	4.8		
	2SO 200-3/4		3/8	7.6		
	2SO 250-1		1	12		
	2SO 350-1 1/4		1 1/4	24		
	2SO 400-1 1/2		1 1/2	29		
	2SO 500-2		2	48		
	2L170-3/8		3/8	4.8	Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	Normally Closed, 2 Way, Direct Acting Brass Body, Seals: PTFE Operating Temp: -5 to 150 deg. C Operating Pressure: 215 PSI Coil: F Class, IP65, 100% ED Service: Air, Liquid, Steam Installation: Vertical Coil Position
	2L170-1/2		1/2	4.8		
	2L170-3/4		3/4	4.8		
	2L200-1		1	12		
	2L300-1 1/4		1 1/4	20		
	2L300-1 1/2		1 1/2	20		
	2L500-2		2	48		
	VX2120-1/8		1/8	0.33	Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	Normally Closed, 2 Way, Direct Acting , Brass Body, Seals: VITON Operating Temp -5 to 150 deg. C Operating Pressure: 140 PSI Coil: F Class, IP65, 100% ED Service: Air, Water, Steam
	VX2120-1/4		1/4	0.33		
	VX2120-3/8		3/8	4		
	VX2120-1/2		1/2	4		
	VXF2120-1/8		1/8		Voltage Options: 1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC	Normally Closed, 2 Way, Direct Acting , Seals: NBR (Option: VITON) Operating Temp: -5 to 150 deg. C Operating Pressure: 150 PSI Coil: F Class, IP65, 100% ED Service: Air, Liquid Body Material: Aluminum
	VXF2120-1/4		1/4			
	VXF2120-3/8		3/8			
	VXF2120-1/2		1/2			
	QWO-1/2		1/2	4.8	Pilot Pressure: 80-150 PSI	Normally Open 2 Way, Direct Acting, Brass Body; Seals: Viton Operating Temp -5 to 80 deg. C Operating Pressure: 100 PSI Air Pilot Pressure: 80-150 PSI Service: Air, Water, Oil, Gas
	QWO-3/4		3/4	7.6		
	QWO-1		1	12		
	QWO-1 1/2		1 1/2	29		
	QWO-2		2	48		

Electrical Coil

	Part No.	Voltage Options	Electrical Connection	Power	Specifications
	2W200C	1 = 12 VDC 2 = 24VDC 2A=24VAC 3 = 110VAC 4 = 220VAC Insulation: F Class IP65 Duty Cycle: 100% ED	D = DIN (5/16" strain relief connector) D = DIN (with LED indicator) G = Grommet (12" Lead Wire)	13 to 20W	For 2S/2W 025 to 250 series valves
	2W350C			25-65W	For 2/S2W 350-500 & 2L 170-500 series valves
	2WOC			40 W	For 2SO/2WO 160-500 series valves
	200C			3 to 6.5 W	For 2V & 2P025-035 & 2V1, 3V1 series valves

Solenoid Valve Specifications

Valve Type	2P	2S/2SO	2W/2WO	2L Series	VX Series 06 to 08	VX Series 10-15	QW
Operating Pressure	Vacuum to 115 PSI		0 to 100 PSI	0 to 210 PSI	0 to 145 PSI	0 to 145 PSI	0 to 85 PSI
Operating Temperature	-5 TO 80 Deg. C			-5 TO 150 Deg. C	-5 TO 150 Deg. C	-5 TO 80 Deg. C	-5 TO 100 Deg. C
Body Materials	Engineered Plastic	304 Stainless	Brass	Brass	Brass	Brass	Brass
Seal Materials	NBR			PTFE	NBR		
Coil Protection Insulation Class	F Class IP65						Air Pilot Operated
Coil Duty Cycle	100% ED						
Electrical Connections	DIN (with 3/8" Strain Relief Connection)				Two 12" Lead Wires		N/A
Service	Air, Liquid			Air, Liquid, Steam Installation -Vertical	Air, Liquid		Air, Liquid, Gas

Ball Valves

								
Reduced Port Ball Valves	Full Port Ball Valves	Full Port Ball Valves	Full Port Ball Valves	Full Port Butterfly Valves	Needle Valves			
Model	V1	V2	V3	V3C	VBS01	VN01		
Material	316 SS	316 SS	316 SS	316 SS	316 SS	316 Stainless Steel		
Port	FNPT	FNPT	FNPT	Clamp	Clamp	NPT Female		
Size 1/4"	V1-1/4	V2-1/4	V3-1/4			VN01-1/4		
3/8"	V1-3/8	V2-3/8	V3-3/8			VN01-3/8		
1/2"	V1-1/2	V2-1/2	V3-1/2			VN01-1/2		
3/4"	V1-3/4	V2-3/4	V3-3/4			VN01-3/4		
1"	V1-1	V2-1	V3-1	V3C-1	VBS01- 1	VN01-1		
1 1/4"	V1-1 1/4	V2-1 1/4	V3-1 1/4					
1 1/2"	V1-1 1/2	V2-1 1/2	V3-1 1/2	V3C-1 1/2	VBS01- 1 1/2			
2"	V1-2	V2-2	V3-2	V3C -2	VBS01- 2			
3"				V3C -3				
								
Miniature Ball Valves	Miniature Ball Valves	Full Port	ROTARY PNEUMATIC VALVE ACTUATORS		Single Acting	Double Acting	Note	
Model	T400	T400FM	T101L	KT-DA	Rotation		Suitable for Ball Valve Size	
Material	Chrome-Plated Brass	Chrome-Plated Brass	Brass		Model	Bore (mm)		90 Degree
Port	F NPT	F x M NPT	F NPT				90 Degree	180 Degree
Size 1/4"	T400-1/4	T400FM-1/4	T101L-1/4		45			1"
3/8"	T400-3/8	T400FM-3/8	T101-3/8		63			1 1/2"
1/2"	T400-1/2	T400FM-1/2	T101L-1/2		83			2 1/2"
3/4"			T101L-3/4		105			3"
1"			T101L-1	125			4"	
1 1/2"			T101L-1 1/2					
2"			T101L-2					

Manual Air Valve Numbering System





























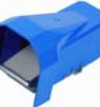
Ordering Part No. =	4H	230C		S
Model	# Way & # Position	PORT SIZE (NPT)	Options	
Manual Air Valves	MOV	3 Way 2 Position	Blank = 1/8	Blank = Plunger (Non-Detented), E = Palm Button (Detented), PPL = Push Button (Non-Detented), R = Roller Lever (Non-Detented), TB = Knob Switch (Detented), M = DETENTED S = NON-DETENTED (Spring Return)
Manual Air Valves	MSV	96322 = 3 Way 2 Position 86522 = 4 Way 2 Position	Blank = 1/4	
Hand Lever Valves	TSV			
Hand Lever Valves	4H	230C = 4 Way 3 Position (Closed Center) 230E = 4 Way 3 Position (Exhaust Center) 230P = 4 Way 3 Position (Pressure Center)		
Pull/Push Valves	3R	210 = 3 Way 2 Position		
	4R	210 = 4 Way 2 Position		
Hand Handle Valves	HV	400 = 4 Way 3 Position 410 = 4 Way 2 Position		
	FV	220 = 2 Way 2 Position 320 = 3 Way 2 Position 420 = 4 Way 2 Position		
Foot Operated Valves	4F	210 = 4 Way 2 Position		
			Blank = Non-Detented	
			Blank = Non-Detented, L = Detented (with lock), G = Guard	

Air Valve Specifications

Specifications								
Model	MSV Series	MOV Series	TSV Series	4H Series	3-4R Series	HV Series	4F Series	FV Series
Description	Hand Valves	Hand Valves	Lever Valves	Lever Valves	Pull/Push	Hand Valves	Foot Valves	Foot Valves
Cv	0.89	0.67	1.0	0.89	0.89	1.68		
Operating Pressure	0 to 115 PSI							
Operating Temperature	23 to 140 Deg. F (-5 to 60 Deg. C)							
Action	Direct Acting							
Working Medium	40 micron filtered air or inert gas							
Body Material	Aluminum							
Seal Material	NBR							
Lubrication	Not Required							

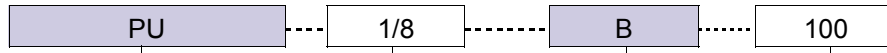
Specifications			
Model	ASC Series	QE Series	ST Series
Description	Flow Control Valves	Quick Exhaust Valves	Shuttle Valves
Operating Pressure	0 to 140 PSI		
Operating Temperature	32 to 140 Deg. F (0 to 60 Deg. C)		
Working Medium	40 micron filtered air or inert gas		
Body Material	Aluminum		
Seal Material	NBR		
Lubrication	Not Required		

Manual Air Valves

1/4" NPT 4 Way 5 Port 2 Position Air Valves								
Model	MSV86522TB	MSV86522EB	MSV86522PB	MSV86522PP	MSV86522R	MSV86522	TSV86522	4R210
Description	Two Position Detented Switch Cv 0.89	Emergency Stop Detented Cv 0.89	Palm Button Momentary Cv 0.89	Push Button Momentary Cv 0.89	Roller Lever Cv 0.89	Pin Plunger Cv 0.89	Lever Detented Cv 1.0	Pull/Push Detented Cv 0.89
1/4" NPT 3 Way 3 Port 2 Position Air Valves								
Model	MSV98322TB	MSV98322EB	MSV98322PB	MSV98322PP	MSV98322R	MSV98322	TSV98322-M	3R210
Description	Two Position Switch Cv 0.89	Emergency Stop Detented Cv 0.89	Palm Button Momentary Cv 0.89	Push Button Momentary Cv 0.89	Roller Lever Momentary Cv 0.89	Pin Plunger Momentary Cv 0.89	Lever Detented Cv 1.0	Pull/Push Detented Cv 0.89
1/8" NPT 3 Way 2 Port 2 Position Air Valves					1/4" NPT Mechanical Air Valves			
Model	MOV-01	MOV-03	MOV-03A	MOV-02	Model	QE	ASC	4R210-S
Description	Two Position Switch Cv 0.67	Emergency Stop Detented Cv 0.67	Push Button Momentary Cv 0.67	Roller Lever Momentary Cv 0.67	Description	Quick Exhaust Valve	In-line Flow Control Valve	4 Way 2 Position Momentary Cv 0.89
1/4" NPT Air Valves								
Model	HV410	HV400	4H230C-S	FV320	FV420	4F210	4F210L	4F210G
Description	2 Position 4 Way Valve Cv 1.68	3 Position 4 Way Valve Closed Center Cv 1.68	3 Position 4 Way Cv 0.89 Closed Center Momentary	3 Way Momentary Foot Valve	4 Way Momentary Foot Valve	4 Way Momentary Foot Valve	4 Way Detented Foot Valve	4 Way Shielded Momentary Foot Valve

Polyurethane Tubing Numbering System

Ordering Part No. =
(eg. PU 1/8 B 100)



Tubing Type	(inch)	(mm)	Color	Length
PU = Polyurethane Tubing	1/8	4	B = Blue	100 = 100 ft
	5/32	6	BK = Black	500 = 500 ft
	1/4	8	G = Green	
	5/16	10	O = Orange	
	3/8	12	R = Red	
	1/2		T = Transparent	
			Y = Yellow	



STC Polyurethane Tubing

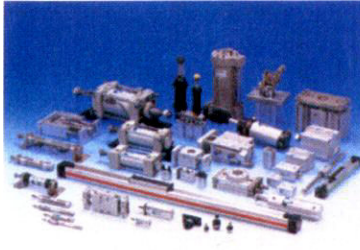
Tubing Size	1/8", 5/32", 1/4", 5/16", 3/8", 1/2"; 4 mm, 6 mm, 8 mm, 10 mm, 12 mm
Length	100 ft or 500 ft (roll in a spool)
Color	Black Blue Clear Green Orange Red Yellow

Tubing Size		Part No.									
OD	ID	Max Pressure PSI @ 75° F	Transparent		Black	Blue	Green	Orange	Red	Yellow	
1/8"	0.078"	200	PU 1/8 T-100		PU 1/8 BK-100	PU 1/8 B-100	PU 1/8 G-100	PU 1/8 O-100	PU 1/8 R-100	PU 1/8 Y-100	
5/32"	0.098"	200	PU 5/32 T-100		PU 5/32 BK-100	PU 5/32 B-100	PU 5/32 G-100	PU 5/32 O-100	PU 5/32 R-100	PU 5/32 Y-100	
1/4"	0.16"	180	PU 1/4 T-100		PU 1/4 BK-100	PU 1/4 B-100	PU 1/4 G-100	PU 1/4 O-100	PU 1/4 R-100	PU 1/4 Y-100	
5/16"	0.20"	180	PU 5/16 T-100		PU 5/16 BK-100	PU 5/16 B-100	PU 5/16 G-100	PU 5/16 O-100	PU 5/16 R-100	PU 5/16 Y-100	
3/8"	0.26"	150	PU 3/8 T-100		PU 3/8 BK-100	PU 3/8 B-100	PU 3/8 G-100	PU 3/8 O-100	PU 3/8 R-100	PU 3/8 Y-100	
1/2"	3/8"	150	PU 1/2 T-100		PU 1/2 BK-100	PU 1/2 B-100	PU 1/2 G-100	PU 1/2 O-100	PU 1/2 R-100	PU 1/2 Y-100	
4 mm	2 mm	200	PU 4 T-100		PU 4 BK-100	PU 4 B-100	PU 4 G-100	PU 4 O-100	PU 4 R-100	PU 4 Y-100	
6 mm	4 mm	180	PU 6 T-100		PU 6 BK-100	PU 6 B-100	PU 6 G-100	PU 6 O-100	PU 6 R-100	PU 6 Y-100	
8 mm	5 mm	180	PU 8 T-100		PU 8 BK-100	PU 8 B-100	PU 8 G-100	PU 8 O-100	PU 8 R-100	PU 8 Y-100	
10 mm	6.5 mm	150	PU 10 T-100		PU 10 BK-100	PU 10 B-100	PU 10 G-100	PU 10 O-100	PU 10 R-100	PU 10 Y-100	
12 mm	8 mm	150	PU 12 T-100		PU 12 BK-100	PU 12 B-100	PU 12 G-100	PU 12 O-100	PU 12 R-100	PU 12 Y-100	

1/8"	0.078"	200	PU 1/8 T-500		PU 1/8 BK-500	PU 1/8 B-500	PU 1/8 G-500	PU 1/8 O-500	PU 1/8 R-500	PU 1/8 Y-500	
5/32"	0.098"	200	PU 5/32 T-500		PU 5/32 BK-500	PU 5/32 B-500	PU 5/32 G-500	PU 5/32 O-500	PU 5/32 R-500	PU 5/32 Y-500	
1/4"	0.16"	180	PU 1/4 T-500		PU 1/4 BK-500	PU 1/4 B-500	PU 1/4 G-500	PU 1/4 O-500	PU 1/4 R-500	PU 1/4 Y-500	
5/16"	0.20"	180	PU 5/16 T-500		PU 5/16 BK-500	PU 5/16 B-500	PU 5/16 G-500	PU 5/16 O-500	PU 5/16 R-500	PU 5/16 Y-500	
3/8"	0.26"	150	PU 3/8 T-500		PU 3/8 BK-500	PU 3/8 B-500	PU 3/8 G-500	PU 3/8 O-500	PU 3/8 R-500	PU 3/8 Y-500	
1/2"	3/8"	150	PU 1/2 T-500		PU 1/2 BK-500	PU 1/2 B-500	PU 1/2 G-500	PU 1/2 O-500	PU 1/2 R-500	PU 1/2 Y-500	
5/32"	2 mm	200	PU 4 T-500		PU 4 BK-500	PU 4 B-500	PU 4 G-500	PU 4 O-500	PU 4 R-500	PU 4 Y-500	
6 mm	4 mm	180	PU 6 T-500		PU 6 BK-500	PU 6 B-500	PU 6 G-500	PU 6 O-500	PU 6 R-500	PU 6 Y-500	
8 mm	5 mm	180	PU 8 T-500		PU 8 BK-500	PU 8 B-500	PU 8 G-500	PU 8 O-500	PU 8 R-500	PU 8 Y-500	
10 mm	6.5 mm	150	PU 10 T-500		PU 10 BK-500	PU 10 B-500	PU 10 G-500	PU 10 O-500	PU 10 R-500	PU 10 Y-500	
12 mm	8 mm	150	PU 12 T-500		PU 12 BK-500	PU 12 B-500	PU 12 G-500	PU 12 O-500	PU 12 R-500	PU 12 Y-500	
1/4"	0.16"	180	PUC 1/4 B-10	10 ft Polyurethane Tubing Coil							
3/8"	0.26"	150	PUC 3/8 B-10	10 ft Polyurethane Tubing Coil							

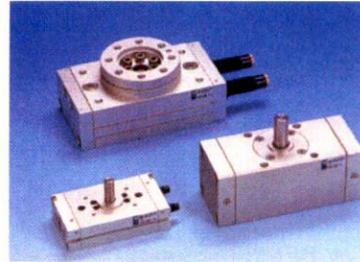
Specifications

Temperature	-40 to 176° F, (-40 to 80° C)
Durometer	Shore A: 95
Size Tolerance	+/- 0.004" (+/- 0.1 mm)



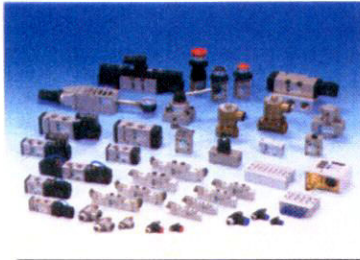
Actuators

- Air Cylinder(ϕ 6~ ϕ 300)
- Compact Cylinder(ϕ 12~ ϕ 100)
- Guide Compact Cylinder
- Double Rod Cylinder
- Magnet Type Rodless Cylinder
- Clamp Cylinder
- Direct Mount Cylinder
- Guide Cylinder



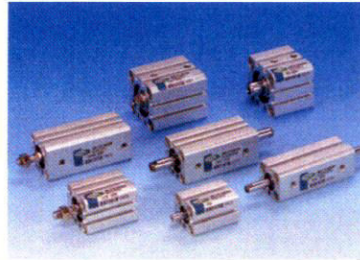
Rotary Cylinder

- Low pressure is applicable to this cylinder (NRP)
- Shock absorbing function with the addition of air cushion (NRP)
- Easy to adjust angle (NRC, NRT)
- Various mounting (NRT)
- Shock absorber is possible (NRC, NRT)



Directional Control Valves

- Solenoid Valve 2port 3port 4port 5port
- Mechanical Valve
- Hand Valve
- Air Operated Valve
- Shuttle Valve
- ISO#2 Interface Valve
- Positioner



Compact Cylinder

- Auto switch mounting allows for flexible designing requirements (Attachable 4 sides)
- With a short overall length, the space saving cylinder
- Square body shape gives you flexibility for machine design
- Multiple surfaces for mounting

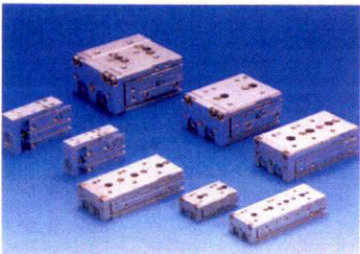
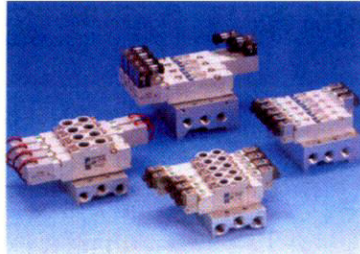


Table Cylinder

- Large work mounting parts
- Large area of contacting roller is more durable
- Easy repairing is possible from the repairing bolt on the surface of table
- Choosing position of air port, right or left is possible
- Mounting possible in three direc.



DV Valve

- Response time is less than 12ms
- Increase of CV factor (2.5 times larger than conventional valve with the same body width)
- Low power consumption : 0.6W (Current draw: 41mA at 240V DC)
- With wear Ring
 - To prevent spool abrasion
- With U Packing
 - To minimize frictional resistance
- Built-in LED for grommet type as standard



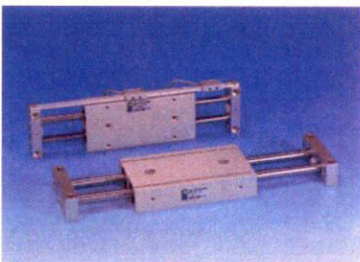
Air Chuck

- Easy to mount
- Compact design
- High Stiffness, high accuracy



Air Preparation Units

- Air Filter
- Air Regulator
- Air Lubricator
- Precision Pressure Regulator
- Air Combination Unit
- Air Filter Regulator
- Air Pressure Gauge
- Coalescing Filter



Slide Cylinder

- Ensures high positional accuracy
- Auto switches can be installed
- Compact type
- Mountable on the housing or on the plate
- Smooth operation and high thrust



Accessories

- Silencer
- Speed Controller
- Fitting
- Floating Joint
- Tube
- Positioner
- Auto Switch

Other Products of Interest

LIMITED WARRANTY – IMPORTANT NOTICE TO PURCHASER

Industrial & Compressed Air Products (ICAP) warrants only this product is be free from defects in materials and workmanship at the time of manufacture. This limited warranty expires one year after delivery to the end-user. ICAP's entire obligation to and the exclusive remedy of any party for breach of this limited warranty shall be limited to replacement of the defective product or refund of the original purchase price of this product, at ICAP's option. Purchaser has thirty (30) days to return the goods after ICAP has agreed to accept the return. All freight charges on returned material shall be paid by the Purchaser. ICAP's limited warranty shall not apply, however, to the product that have been subjected to misuse, alteration, accident or negligence during handling or storage.

DISCLAIMER OF IMPLIED WARRANTIES

All implied warranties, which may arise by implication of law or application of course of dealing or usage of trade, including, but not limited to, implied warranties of merchantability or fitness for a particular purpose are expressly excluded. There are no warranties, which extend beyond the description of the faced hereof. The end user is solely responsible for the suitability and fitness of this product selected for a particular application.

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