

Hci

Hydronic Components Inc.



Product Listing

Effective June 24, 2019

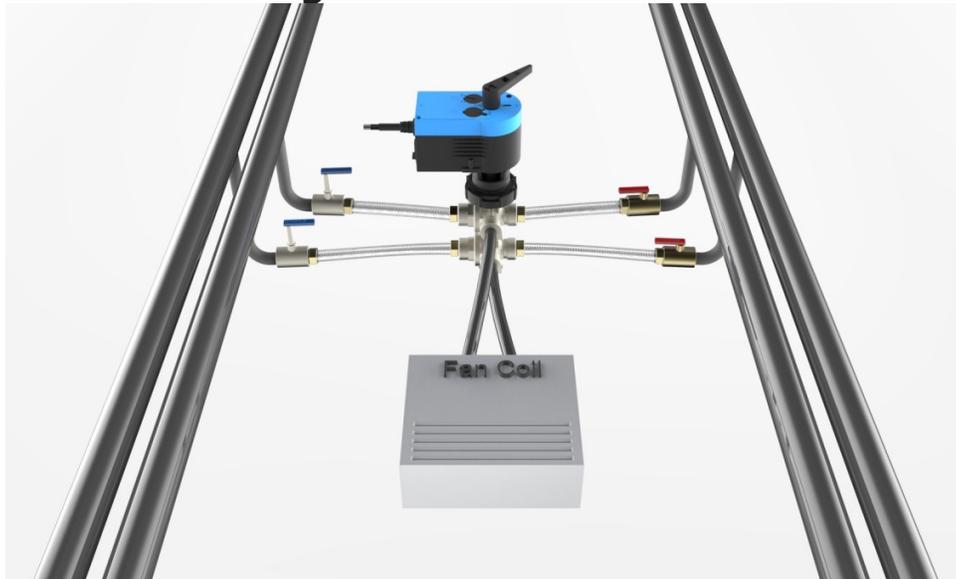
Hci

Hydronic Components Inc.

Who We Are

Hydronic Components, Inc., a division of Jomar Group, has led the balancing and coil piping package industry since 1995. The Terminator System[®] coil piping packages have revolutionized hydronic installations by using quality engineered combination valves to minimize the time and space required to install hydronic terminal units. *Hci* components are 100% leak tested and are bagged and tagged into a single package for easy installation. With *Hci*, you can count on less installation time, less space and less components, along with fast reliable deliveries, all backed by our 5-year warranty.

Six Way Control Valves



Designed to connect a four-pipe system to a single coil, the Six Way Control Valve provides modulating heating and cooling control along with coil isolation in a single compact body. The Six Way Control Valve takes the place of four control valves, drastically simplifying installation while saving time and money.

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Six Way Control Valves

Terminator Six Way - T6 Series

ISO 5211 Mounting, Orifice Plate Inserts, Linear Flow Characteristics

Part Number	Size	Connection	Weight (Lbs)
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Body

T6-AF-1.45	1/2"	FNPT	2.39
T6-BF-4.62	3/4"	FNPT	4.20
T6-AU-1.45	1/2"	Union	2.20
T6-AU-3.24	1/2"	Union	4.10

Connection Options

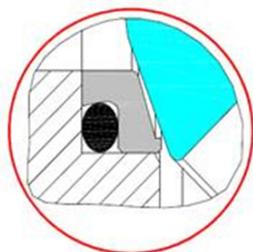
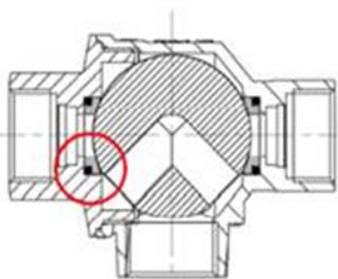
UAF-T6-P	1/2"	FNPT Union Nut	0.20
HCB-12	3/4" x 12"	MNPT x Union	0.80
HCB-18	3/4" x 18"	MNPT x Union	0.90
HCB-24	3/4" x 24"	MNPT x Union	1.10
HCB-36	3/4" x 36"	MNPT x Union	1.40

Actuator

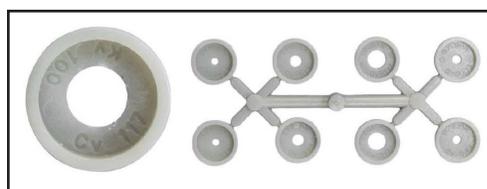
T6A-P	24VAC, 0-10V, 3-point	1.50
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Accessories

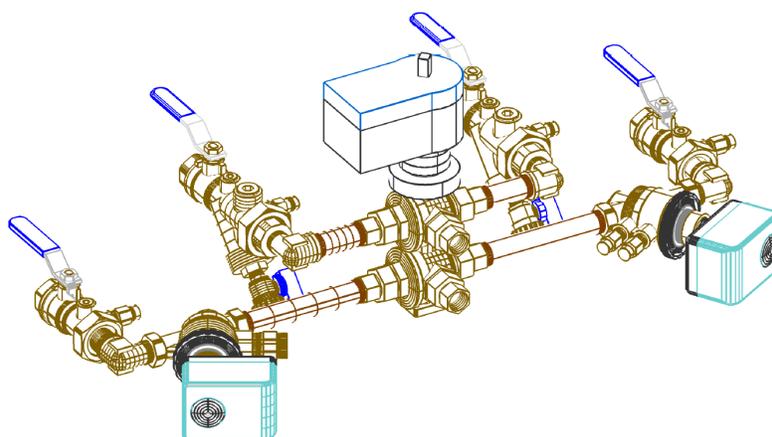
T6-MB-P	T6 Angle Mounting Bracket	-
T6-PLIERS	Pliers for T6 CV Discs	-
T6I-A	1/2" Insulator	-
T6I-B	3/4" Insulator	-



Thermal Expansion Passage keeps coil in contact with system expansion tank.



Orifice plate inserts allow the contractor to balance the heating and cooling flow rates independently.



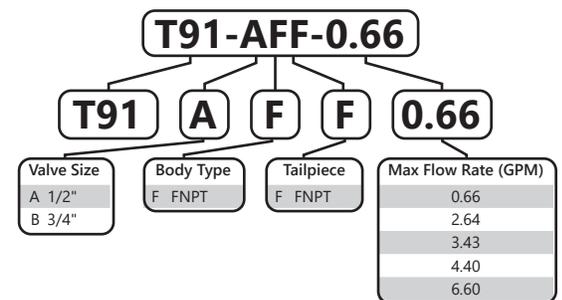
Contact HCi about Prepped 6-way Assemblies

Pressure Independent Control Valves

Terminator PICV 91 Series - Pressure Independent Control Valve

PT Ports, Differential Pressure Regulator, External Flow Presetting Dial, Axial Control Valve, Location Tag, 360 WOG, Control Range: 3-60 PSI

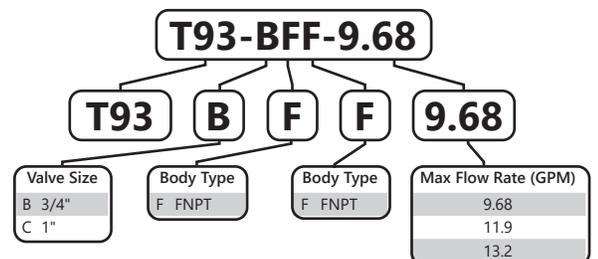
Part Number	Size	Outlet Connection	Inlet Connection	Flow Rate Range (GPM)
T91-AFF-0.66	1/2"	FNPT	FNPT	0.07 - 0.66
T91-AFF-2.64	1/2"	FNPT	FNPT	0.26 - 2.64
T91-AFF-3.43	1/2"	FNPT	FNPT	0.34 - 3.43
T91-BFF-4.40	3/4"	FNPT	FNPT	0.44 - 4.4
T91-BFF-6.60	3/4"	FNPT	FNPT	0.66 - 6.6



Terminator PICV 93 Series - Pressure Independent Control Valve

PT Ports, Differential Pressure Regulator, External Flow Presetting Dial, Double Union Connection, Axial Control Valve, Location Tag, 360 WOG, Control Range: 3-60 PSI

Part Number	Size	Outlet Connection	Inlet Connection	Flow Rate Range (GPM)
T93-B_-9.68	3/4"	FNPT	FNPT	.97 - 9.68
T93-B_-11.9	3/4"	FNPT	FNPT	1.19 - 11.9
T93-C_-11.9	1"	FNPT	FNPT	1.19 - 11.9
T93-C_-13.2	1"	FNPT	FNPT	1.32 - 13.2



Note: Information subject to change without notice.

Pressure Independent Control Valves

PICV Actuator 91/93 Series - Fail in Place

Nema 2, UL Listed, Ambient Temperature: 32°F to 122°F

Part Number	Voltage	Starting Position	Signal	Weight (Lbs)
VA-7482-8002-RA	24 VAC	NO	0(2)-10 VDC, 0(4)-20 mA	0.5



PICV Actuator 91/93 Series - Fail Safe

Nema 1, UL Listed, Ambient Temperature: 32°F to 120°F

Part Number	Voltage	Starting Position	Signal	Weight (Lbs)
ME4840	24 VAC	NO	0(2)-10 VDC	0.8
ME4940	24 VAC	NC	0(2)-10 VDC	0.8



Actuator Mounting Rings for Factory Approved Compatible Brands

Note: A mounting ring is included with every PICV actuator. A ring only needs to be purchased if the actuator for the 91/93 series valve is sourced separately.

Part Number	Stem Connection	Manufacture Brand	Manufacture Model	Weight (Lbs)
0A7010	M28X30X1.5	Spartan	ALL	0.1
	M28X30X1.5	JCI	VA-7482	0.1
	M28X30X1.5	Siemens	SSD31UG	0.1
	M28X30X1.5	Siemens	SSD61UG	0.1
	M28X30X1.5	Siemens	SSD81UG	0.1
0M7410	M28X30X1.5	Honeywell	M6410A	0.1
	M28X30X1.5	Honeywell	M7410F	0.1

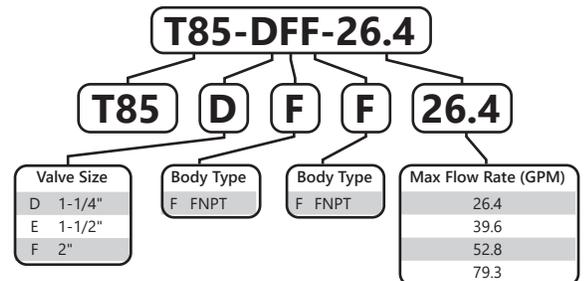


Pressure Independent Control Valves

Terminator PICV 85 Series - Pressure Independent Control Valve

PT Ports, Differential Pressure Regulator, Double Union Connection, Rotary Control Valve, Location Tag, 230 WOG, Control Range: 5-60 PSI, Presetting Device

Part Number	Size	Outlet Connection	Inlet Connection	Flow Range
T85-DFE-26.4	1-1/4"	FNPT	FNPT	6.6 - 26.4
T85-EFF-39.6	1-1/2"	FNPT	FNPT	9.9 - 39.6
T85-FFF-52.8	2"	FNPT	FNPT	13.2 - 52.8
T85-FFF-79.2	2"	FNPT	FNPT	19.8 - 79.2



PICV Actuators 85 Series - Fail in Place

Nema 5, UL Listed, Ambient Temperature: -22°F to 140°F

Part Number	Voltage	Starting Position	Signal	Weight (Lbs)
VA9310-HGA-2	24 VAC	NO	On/Off, 3-Point, 0(2)-10 VDC	2.0



PICV Actuators 85 Series - Fail Safe

Nema 2, UL Listed, Ambient Temperature: -40°F to 140°F

Part Number	Voltage	Starting Position	Signal	Weight (Lbs)
VA9208-GGA-2	24 VAC	NO or NC*	0(2)-10 VDC, 0(4)-20 mA	2.0

*Must indicate Starting Position, NO = Normally Open, NC = Normally Closed



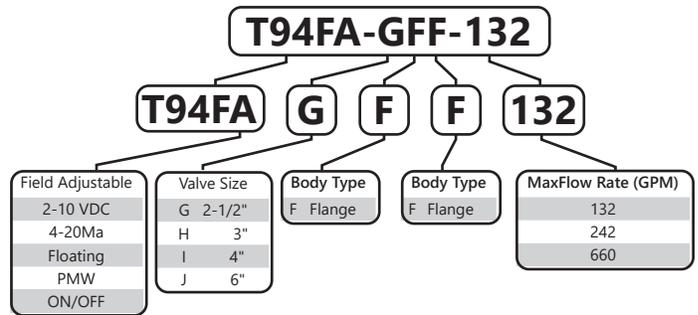
Note: Information subject to change without notice.

Pressure Independent Control Valves

Terminator PICV 94FA Series - Pressure Independent Control Valve with Actuator

PT Ports, Differential Pressure Regulator, Flanged Connection (ANSI B16.1), Face to Face Standard (ISA-75.08.01), Multi-turn Control Valve, Location Tag, 230 WOG, Control Range: 4.35-58 PSI, Assembled with PICV 94 Series Actuator

Part Number	Size	Outlet Connection	Inlet Connection	Flow Rate Range (GPM)
T94FA-GFF-132	2-1/2"	Flanged	Flanged	132
T94FA-HFF-132	3"	Flanged	Flanged	132
T94FA-IFF-242	4"	Flanged	Flanged	242
T94FA-JFF-660	6"	Flanged	Flanged	660



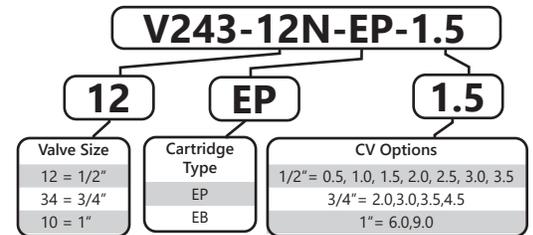
Control Valves

Terminal Unit Bronze Body Valve Assemblies

2-Way Valve Body with Female Threaded Ports In and Out: Low Zinc Bronze, Alloy C84400, Pressure Rated (400 PSI to 150°F and 250 PSI to 250°F), Stem Travel 5/32" (4mm)

Part Number	Size	Connection	Porting	CV* Must select
V243-12N-EP_ _	1/2"	FNPT x FNPT	2-Way	0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5
V243-12N-EB_ _	1/2"	FNPT x FNPT	2-Way	0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5
V243-34N-EP_ _	3/4"	FNPT x FNPT	2-Way	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.5
V243-34N-EB_ _	3/4"	FNPT x FNPT	2-Way	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.5
V243-10N-EB_ _	1"	FNPT x FNPT	2-Way	6.0, 9.0

*EB cartridges are recommended on spring return actuators



Terminal Unit Bronze Body Valve Assemblies

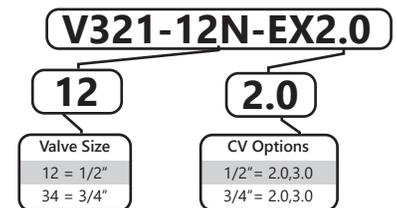
3-Way Valve Body with Male Threaded Ports In and Out: Low Zinc Bronze, Alloy C84400, Pressure Rated (400 PSI to 150°F and 250 PSI to 250°F), Stem Travel 5/32" (4mm)

Part Number	Size	Connections	Porting	CV* Must Select
V321-12N-EX_ _	1/2"	MNPT	3-Way	2.0, 3.0
V321-34N-EX_ _	3/4"	MNPT	3-Way	2.0, 3.0

Note: 3x MNPT Tailpieces included with valve

Note: NO actuator position = B --> AB Flow

Note: NC actuator position = A --> AB Flow



Terminal Unit Actuators Electric Spring Return Fail Safe

NEMA 1, 8 VA Power Consumption (0.3A at 24 VAC), 40°F to 122°F Temperature Range

Part Number	Voltage	Starting Position	Signal
ME4430W	24V	NO	On/Off
ME4430S	24V	NO	On/Off
ME4530W	24V	NC	On/Off
ME4530S	24V	NC	On/Off
ME4840	24VAC	NO	Modulating (2-10VDC)
ME4940	24VAC	NC	Modulating (2-10VDC)
ME4640	24VAC	NO	3-Point Floating

W=Wire Harness, S=End Switch

NO=Normally Open, NC=Normally Closed



Note: Information subject to change without notice.

Control Valves

Terminal Unit Actuators Electric Spring Return Fail in Place

NEMA 1, 8 VA Power Consumption (0.3A at 24 VAC), 40°F to 122°F Temperature Range

Part Number	Voltage	Starting Position	Signal
ME4140	24VAC	-	3-Point Floating
ME4340	24VAC	NO	Modulating (0/2-10VDC)

NO = normally open



Spring Return Control Valves Assemblies Fail Safe, 2-Way Port

Universal 2/3-Way Globe Valve & Actuator Assembly, -25°F to 130°F Temperature Range, Maximum Valve Body Differential Pressure 60 PSI

Part Number	Size	Connection	Porting	Available Cvs	Voltage	Signal	Starting Position
VE411(2)-__-5430	1"	FNPT	2-Way	6, 11	24 VAC	ON/OFF	NO or NC
VE411(2)-__-5430	1-1/2"	FNPT	2-Way	16, 24	24 VAC	ON/OFF	NO or NC
VE411(2)-__-5440	2"	FNPT	2-Way	35, 45	24 VAC	ON/OFF	NO or NC
VE411(2)-__-5830	1"	FNPT	2-Way	6, 11	24 VAC	0-10 VDC	NO or NC
VE411(2)-__-5830	1-1/2"	FNPT	2-Way	16, 24	24 VAC	0-10 VDC	NO or NC
VE411(2)-__-5840	2"	FNPT	2-Way	35, 45	24 VAC	0-10 VDC	NO or NC

*Must indicate Starting Position, NO = Normally Open, NC = Normally Closed

__ = Specify Cv



Spring Return Control Valves Assemblies Fail Safe, 3-Way Port

Universal 2/3-Way Globe Valve & Actuator Assembly, -25°F to 130°F Temperature Range, Maximum Valve Body Differential Pressure 60 PSI

Part Number	Size	Connection	Porting	Available Cvs	Voltage	Signal	Starting Position*
VE411-__-5430	1"	FNPT	3-Way	6, 11	24 VAC	ON/OFF	NO or NC
VE411-__-5430	1-1/2"	FNPT	3-Way	16, 24	24 VAC	ON/OFF	NO or NC
VE411-__-5440	2"	FNPT	3-Way	35, 45	24 VAC	ON/OFF	NO or NC
VE411-__-5830	1"	FNPT	3-Way	6, 11	24 VAC	0-10 VDC	NO or NC
VE411-__-5830	1-1/2"	FNPT	3-Way	16, 24	24 VAC	0-10 VDC	NO or NC
VE411-__-5840	2"	FNPT	3-Way	35, 45	24 VAC	0-10 VDC	NO or NC

*Must indicate Starting Position

Note: NO actuator position = B --> AB Flow

Note: NC actuator position = A --> AB Flow

__ = Specify Cv



Note: Information subject to change without notice.

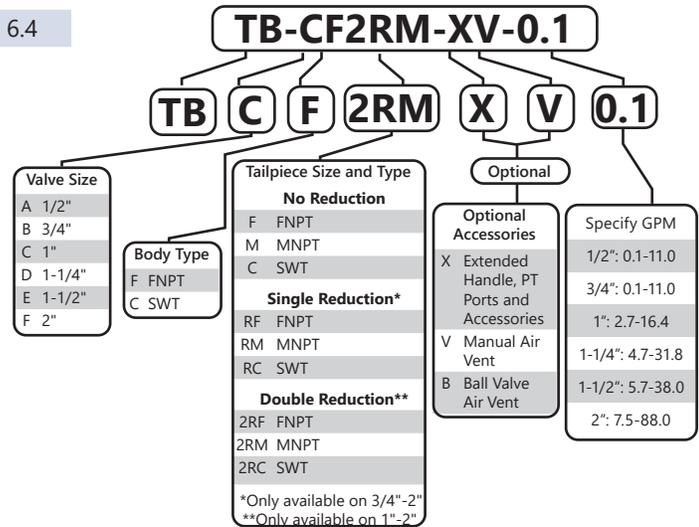
Manual Balancing Valves

Terminator B - Venturi Balance & Shutoff Valve

Integrated Ball Valve with Memory Stop, Union, Venturi, PT Ports, Location Tag, 400 WOG

Part Number	Size	Outlet / Body Connection	Inlet / Tailpiece Selection	Flow Rate Selection	Weight (Lbs)
TB-A_ _	1/2"	E.g. F	E.g. F	E.g. 7 GPM	1.3
TB-B_ _	3/4"	-	-	-	1.3
TB-C_ _	1"	-	-	-	2
TB-D_ _	1-1/4"	-	-	-	3
TB-E_ _	1-1/2"	-	-	-	4.4
TB-F_ _	2"	-	-	-	6.4

Optional Accessories: Air Vent - Handle Extension - PT Port Extensions



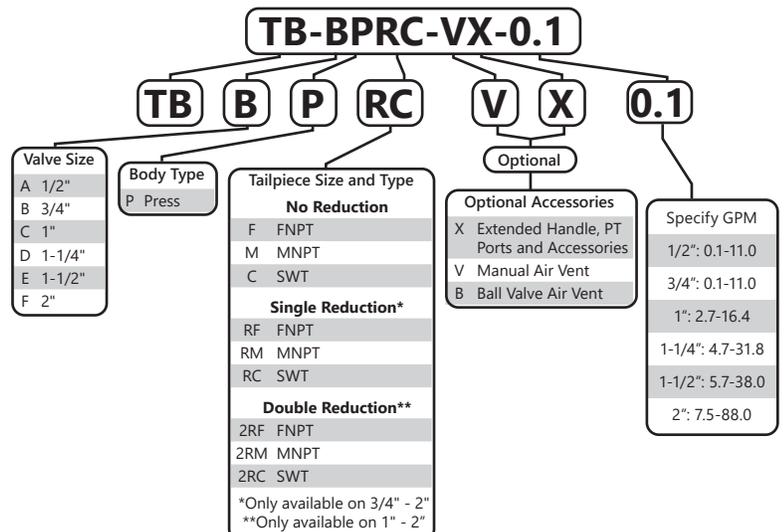
Terminator B Press - Venturi Balance & Shutoff Valve

Integrated Ball Valve with Memory Stop, Union, Venturi, PT Ports, Location Tag, 250 WOG

Part Number	Size	Outlet / Body Connection	Inlet / Tailpiece Selection	Flow Rate Selection	Weight (Lbs)
TB-AP_ _	1/2"	Press	E.g. F	E.g. 7 GPM	1.3
TB-BP_ _	3/4"	Press	-	-	1.3
TB-CP_ _	1"	Press*	-	-	2
TB-DP_ _	1-1/4"	Press*	-	-	3
TB-EP_ _	1-1/2"	Press*	-	-	4.4
TB-FP_ _	2"	Press*	-	-	6.4

Optional Accessories: Air Vent - Handle Extension - PT Port Extensions

*1"-2" Terminator B Press is a FNPT Body with MNPT x Press Adapter



Note: Information subject to change without notice.

Manual Balancing Valves

Terminator B - Venturi Balance & Shutoff Valve

Integrated Venturi Metering Station, Butterfly Valve with Positioning Handle, PT Ports, Location Tag, 200 PSI

Part Number	Size	Outlet Connection	Inlet Selection	Flow Rate (GPM) Range	Weight (Lbs)
TB-GLF-L	2-1/2"	Lugged	Flanged	23.7 - 71.5	36
TB-GLF-H	2-1/2"	Lugged	Flanged	47 - 143	36
TB-HLF-L	3"	Lugged	Flanged	36.5 - 110.5	40
TB-HLF-H	3"	Lugged	Flanged	83.5 - 251	40
TB-ILF	4"	Lugged	Flanged	148 - 447	59
TB-JLF	6"	Lugged	Flanged	238 - 716	87
TB-KLF	8"	Lugged	Flanged	445 - 1345	150
TB-LFF	10*	Flanged	Flanged	580-2950	197
TB-MFF	12"	Flanged	Flanged	1250-6700	306

Optional Accessories: PT Port Extensions- Gear Operator

Large Sizes: Please Call



Terminator MS - Venturi Tube Meter Station

ANSI Class 150 Flanged, Carbon Steel, Venturi Meter Station with 2 PT Ports, Location Tag, 600 PSI

Part Number	Size	Outlet Connection	Inlet Selection	Flow Rate (GPM) Range	Weight (Lbs)
MS-GFF-L	2-1/2"	Flanged	Flanged	23.7 - 71.5	24
MS-GFF-H	2-1/2"	Flanged	Flanged	47 - 143	24
MS-HFF-L	3"	Flanged	Flanged	36.5 - 110.5	27
MS-HFF-H	3"	Flanged	Flanged	83.5 - 251	27
MS-IFF	4"	Flanged	Flanged	148 - 447	39
MS-JFF	6"	Flanged	Flanged	238 - 716	59
MS-KFF	8"	Flanged	Flanged	445 - 1345	150

Optional Accessories: PT Port Extensions



Manual Balancing Valves

Terminator GV - Globe Valve

Variable Orifice, Memory Stop, 300 WOG

Part Number	Size	Minimum Flow	Nominal Flow	Maximum Flow	Weight (Lbs)
Threaded Connection					
TGV-AFF	1/2"	0.14	0.50-3.08	12.10	1.20
TGV-BFF	3/4"	0.26	3.80-5.50	17.40	1.30
TGV-CFF	1"	0.37	5.50-9.50	30	1.70
TGV-DFE	1-1/4"	0.60	9.50-14	44.60	2.70
TGV-EFF	1-1/2"	0.91	14-20	66.40	3.30
TGV-FFF	2"	1.52	20-33	107.20	5.10
Solder Connection					
TGV-ACC	1/2"	0.14	0.50-3.08	12.10	1.20
TGV-BCC	3/4"	0.26	3.80-5.50	17.40	1.30
TGV-CCC	1"	0.37	5.50-9.50	30	1.70
TGV-DCC	1-1/4"	0.60	9.50-14	44.60	2.70
TGV-ECC	1-1/2"	0.91	14-20	66.40	3.30
TGV-FCC	2"	1.52	20-33	107.20	5.10



Terminator GV Flanged - Globe Valve

Variable Orifice, Memory Stop, 230 WOG

Part Number	Size	Minimum Flow	Nominal Flow	Maximum Flow	Weight (Lbs)
TGV-GFF	2-1/2"	2.13	33-100	318.30	30.90
TGV-HFF	3"	4.19	100-117	374.50	44.10
TGV-IFF	4"	6.09	117-200	646.80	57.30
TGV-KFF	6"	13.70	320-440	1447	88.20
TGV-LFF	8"	30	450-750	2415	110.20
TGV-MFF	10"	47	750-1300	4050	260
TGV-NFF	12"	43	1300-1600	5115	390



Note: Information subject to change without notice.

Automatic Balancing Valves

Terminator A Compact - Integrated Automatic Balancing Valve

Integrated Ball Valve, Union, PT ports, Automatic Flow Cartridge, Location Tag, 600 WOG

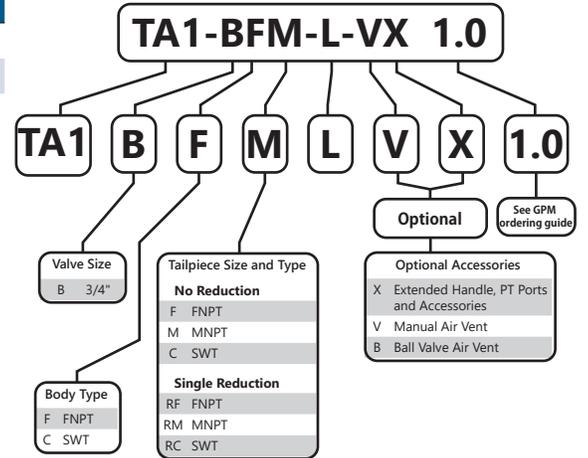
Part Number	Size	Outlet/Body Connection	Inlet/Tailpiece Selection	Flow Rate (GPM) Selection	Weight (Lbs)
TA1-B_-L	3/4"	E.g. F	E.g. F	E.g. 1.0 GPM	1.4

Optional Accessories: Air Vent - PT Port Extension - Handle Extension



GPM Ordering Guide

Size	Cartridge	GPM								
3/4" Low	C1-L	0.33	0.50	0.75	1.00	1.50	2.00	2.50	3.0	
3/4" High	C1-H	4.00	5.00	-	-	-	-	-	-	-



Terminator A - Integrated Automatic Balancing Valve

Integrated Ball Valve, Union, PT ports, Automatic Flow Cartridge, Location Tag, 600 WOG

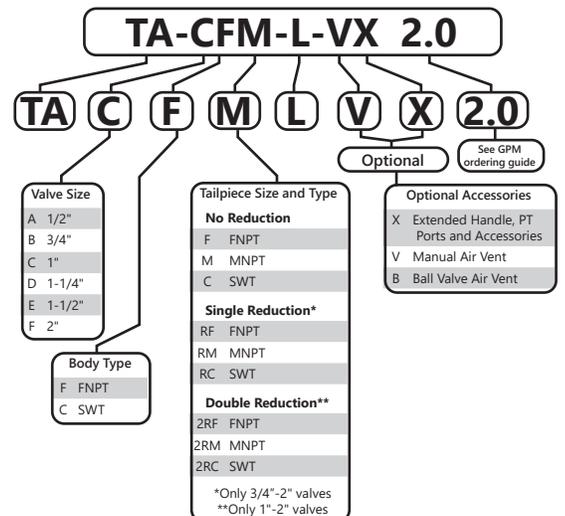
Part Number	Size	Outlet/Body Connection	Inlet/Tailpiece Selection	Flow Rate (GPM) Selection	Weight (Lbs)
TA-A_-L	1/2"	E.g. F	E.g. F	E.g. 2.0 GPM	1.4
TA-B_-L	3/4"	-	-	-	2.4
TA-C_-L	1"	-	-	-	2.8
TA-D_-L	1-1/4"	-	-	-	4.8
TA-E_-L	1-1/2"	-	-	-	5
TA-F_-L	2"	-	-	-	9.3

Optional Accessories: Air Vent - PT Port Extension - Handle Extension



GPM Ordering Guide

Size	Cartridge	GPM								
1/2" Low	C1-L	0.33	0.5	0.75	1.0	2.0	2.5	3.0	-	-
1/2" High	C1-H	4.0	5.0	-	-	-	-	-	-	-
3/4" Low	C2-L	1.0	2.0	3.0	3.5	4.0	4.5	5.0	6.0	7.0
3/4" High	C2-H	9.0	10.0	11.0	12.0	-	-	-	-	-
1" Low	C2-L	1.0	2.0	3.0	3.5	4.0	4.5	5.0	6.0	7.0
1" High	C2-H	9.0	10.0	11.0	12.0	-	-	-	-	-
1-1/4" Low	C3-L	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	18.0
1-1/4" High	C3-H	20.0	22.0	24.0	26.0	-	-	-	-	-
1-1/2" Low	C3-L	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	18.0
1-1/2" High	C3-H	20.0	22.0	24.0	26.0	-	-	-	-	-
2" Low	C4-L	20.0	24.0	28.0	32.0	36.0	40.0	44.0	48.0	-
2" High	C4-H	52.0	58.0	64.0	70.0	-	-	-	-	-



Note: Information subject to change without notice.

Automatic Balancing Valves

Terminator A Press - Integrated Automatic Balancing Valve

Integrated Ball Valve, Union, PT Ports, Automatic Flow Cartridge, Location Tag, 250 WOG

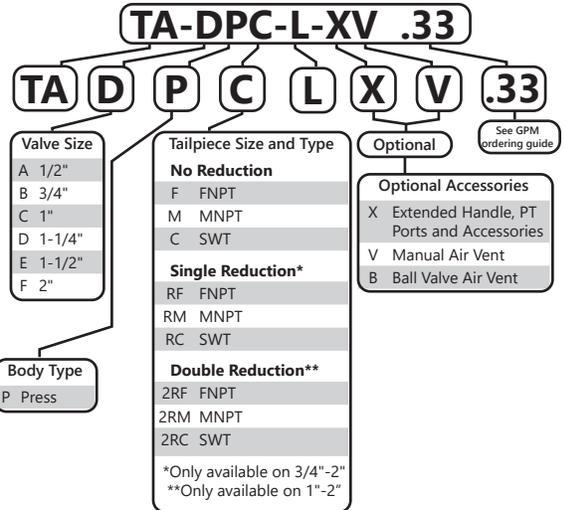


Part Number	Size	Outlet / Body Connection	Inlet / Tailpiece Selection	Flow Rate (GPM) Selection	Weight (Lbs)
TA-AP_-L	1/2"	Press	E.g. F	E.g. 0.33 GPM	1.4
TA-BP_-L	3/4"	Press	-	-	2.4
TA-CP_-L	1"	Press*	-	-	2.8
TA-DP_-L	1-1/4"	Press*	-	-	4.8
TA-EP_-L	1-1/2"	Press*	-	-	5
TA-FP_-L	2"	Press*	-	-	9.3

Optional Accessories: Air Vent - PT Port Extension - Handle Extension
 * 1"-2" Terminator A Press is a FNPT Body with MNPT x Press Adapter

GPM Ordering Guide

Size	Cartridge	GPM									
1/2" Low	C1-L	0.33	0.50	0.75	1.0	2.0	2.5	3.0	-	-	-
1/2" High	C1-H	4.0	5.0	-	-	-	-	-	-	-	-
3/4" Low	C2-L	1.0	2.0	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0
3/4" High	C2-H	9.0	10.0	11.0	12.0	-	-	-	-	-	-
1" Low	C2-L	1.0	2.0	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0
1" High	C2-H	9.0	10.0	11.0	12.0	-	-	-	-	-	-
1-1/4" Low	C3-L	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	18.0	-
1-1/4" High	C3-H	20.0	22.0	24.0	26.0	-	-	-	-	-	-
1-1/2" Low	C3-L	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	18.0	-
1-1/2" High	C3-H	20.0	22.0	24.0	26.0	-	-	-	-	-	-
2" Low	C4-L	20.0	24.0	28.0	32.0	36.0	40.0	44.0	48.0	-	-
2" High	C4-H	52.0	58.0	64.0	70.0	-	-	-	-	-	-



Note: Information subject to change without notice.

Automatic Balancing Valves

Terminator A - Automatic Flow Limiter

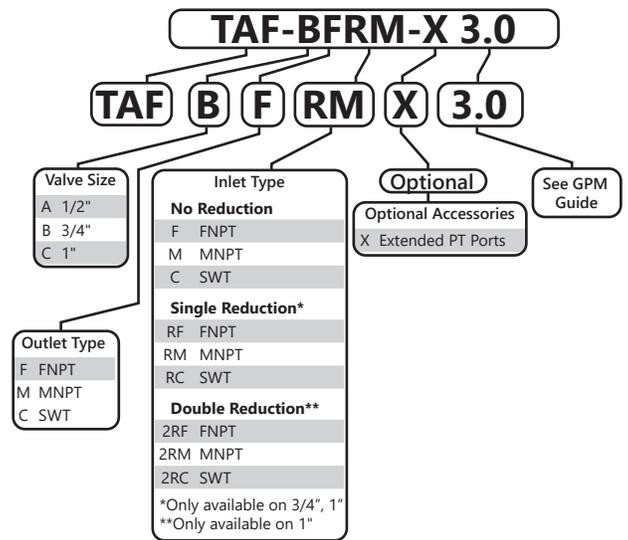
PT Ports, Automatic Flow Cartridge, Union, 400 WOG

Part Number	Size	Outlet Connection	Inlet Connection	Flow Rate (GPM) Selection	Weight (Lbs)
TAF-A_ _	1/2"	E.g. F	E.g. F	E.g. 3.0 GPM	2.3
TAF-B_ _	3/4"	-	-	-	2.3
TAF-C_ _	1"	-	-	-	2.3



GPM Ordering Guide

Size	Cartridge	GPM										
1/2"-1"	C2-L	0.33	0.5	0.75	1.0	2.0	3.0	4.0	4.5	6.0	7.0	8.0
	C2-H	9.0	10.0	11.0	12.0	-	-	-	-	-	-	-

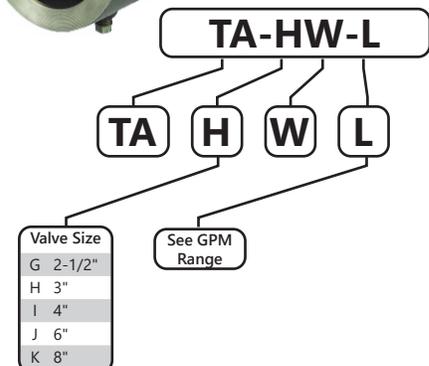


Terminator A - Integrated Automatic Balancing Valve

PT Ports, Automatic Flow Cartridge, Wafer Connection, Location Tag, 400 WOG

Part Number	Size	Outlet Connection	Inlet Connection	Max Flow Rate (GPM)	Weight (Lbs)
TA-GW-L	2-1/2"	Wafer	Wafer	80	13
TA-GW-H	2-1/2"	Wafer	Wafer	120	13
TA-HW-L	3"	Wafer	Wafer	135	20
TA-HW-H	3"	Wafer	Wafer	170	20
TA-IW-L	4"	Wafer	Wafer	270	26
TA-IW-H	4"	Wafer	Wafer	340	26
TA-JW-L	6"	Wafer	Wafer	540	32
TA-JW-H	6"	Wafer	Wafer	680	32
TA-KW-L	8"	Wafer	Wafer	945	44
TA-KW-H	8"	Wafer	Wafer	1190	44

Note: These valves are special made to order. Please allow 2-3 weeks lead time.



Note: Information subject to change without notice.

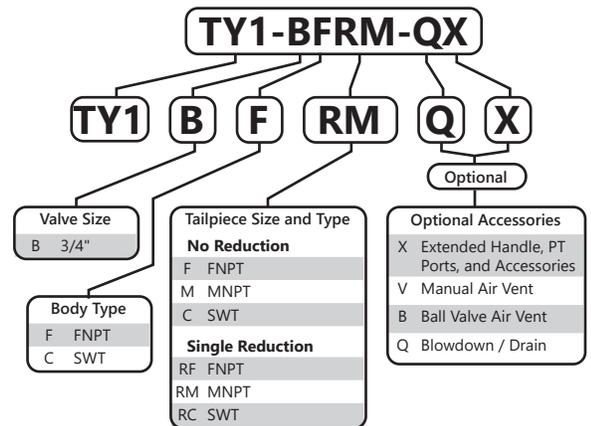
Combination Strainer Valves

Terminator Y Compact - Y-Pattern Combination Ball Valve Strainer

Isolation Ball Valve, 20 Mesh Strainer with Union and PT Port, 600 WOG

Part Number	Size	Inlet / Body Connection	Outlet / Tailpiece Selection	Weight (Lbs)
TY1-B_ _	3/4"	E.g. F	E.g. F	1.5

Optional Accessories: Drain/Blowdown Valve - Air Vent - PT Port Extension - Handle Extension



Terminator Y - Y-Pattern Combination Ball Valve Strainer

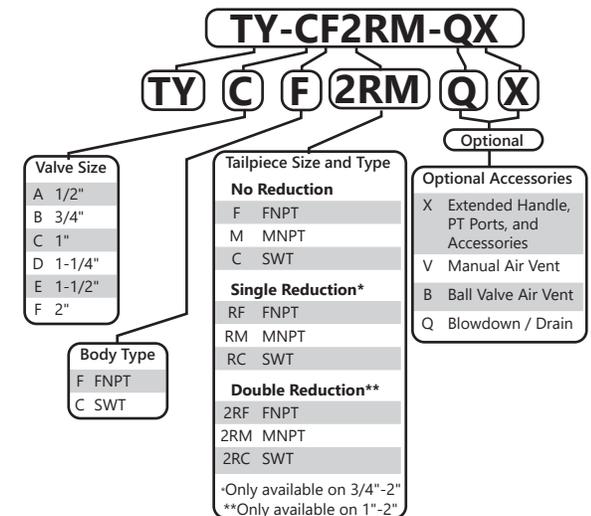
Integrated Ball Valve, 20 Mesh Strainer with Union and PT Port, 600 WOG

Part Number	Size	Inlet / Body Connection	Outlet / Tailpiece Selection	Weight (Lbs)
TY-A_ _	1/2"	E.g. F	E.g. F	1.5
TY-B_ _	3/4"	-	-	2.3
TY-C_ _	1"	-	-	2.5
TY-D_ _	1-1/4"	-	-	4.5
TY-E_ _	1-1/2"	-	-	5
TY-F_ _	2"	-	-	10

Optional Accessories: Drain/Blowdown Valve - Air Vent - PT Port Extension - Handle Extension



*Shown with optional blowdown drain accessory



Combination Strainer Valves

Terminator Y Press - Y-Pattern Combination Ball Valve Strainer

Integrated Ball Valve, 20 Mesh Strainer with Union and PT Port, 250 WOG

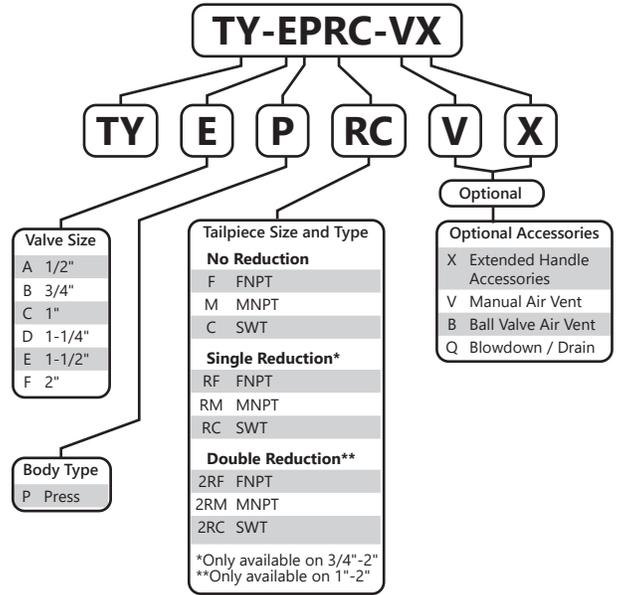
Part Number	Size	Inlet / Body Connection	Outlet / Tailpiece Selection	Weight (Lbs)
TY-AP _	1/2"	Press	E.g. F	1.5
TY-BP _	3/4"	Press	-	2.3
TY-CP _	1"	Press*	-	2.5
TY-DP _	1-1/4"	Press*	-	4.5
TY-EP _	1-1/2"	Press*	-	5
TY-FP _	2"	Press*	-	10

Optional Accessories: Drain/Blowdown Valve - Air Vent - PT Port Extensions - Handle Extension

* 1"-2" Terminator A Press is a FNPT Body with MNPT x Press Adapter



*Shown with optional blowdown drain accessory



Terminator S Junior - Strainer & Shutoff Valve

Integrated Ball Valve, 20 Mesh Strainer, FIP x FIP Body, 400 WOG

Part Number	Size	Inlet Connection	Outlet Connection	Weight (Lbs)
TS-AF	1/2"	FNPT	FNPT	2
TS-BF	3/4"	FNPT	FNPT	2
TS-CF	1"*	FNPT	FNPT	2.8
TS-DF	1-1/4"*	FNPT	FNPT	4.5
TS-EF	1-1/2"*	FNPT	FNPT	7
TS-FF	2"*	FNPT	FNPT	15

Optional Accessories: Blowdown - Handle Extensions

* No backflush feature



Combination Strainer Valves

Terminator S - Strainer & Shutoff Valve

Integrated Butterfly Valve, SS-304 Strainer, PT Port and Additional Accessory Tappings, 200 PSI, 150°F

Part Number	Size	Inlet Connection	Outlet Connection	Weight (Lbs)
TS-GLF	2-1/2"	Lugged	Flanged	45
TS-HLF	3"	Lugged	Flanged	51
TS-ILF	4"	Lugged	Flanged	88
TS-JLF	6"	Lugged	Flanged	166
TS-KLF	8"	Lugged	Flanged	312

Optional Accessories: Drain/Blowdown Valve - Air Vent - Accessory Extensions - Gear Operator

Note: Sizes available over 8" by custom request, please call HCI for price and lead time.



Terminator Y - Strainer and Additional Tappings

ANSI Class 125 Flanged Cast Iron Strainer with SS-304 Screen with 3 Additional Accessory Tappings, 200 PSI, 150°F

Part Number	Size	Inlet Connection	Outlet Connection	Weight (Lbs)
YS-GFF	2-1/2"	Flanged	Flanged	33
YS-HFF	3"	Flanged	Flanged	38
YS-IFF	4"	Flanged	Flanged	67
YS-JFF	6"	Flanged	Flanged	138
YS-KFF	8"	Flanged	Flanged	275

Optional Accessories: Drain Valve / Blowdown - PT Ports - Air Vent - Accessory Extensions - Butterfly Shut-off Valve

Note: Sizes available over 8" by custom request, please call HCI for price and lead time.



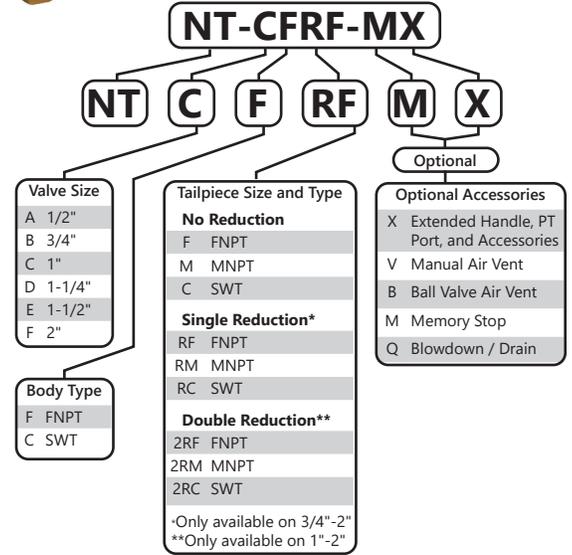
Combination Ball Valves

Terminator N - 100% Full Port Multi-Function Valve

Integrated Ball Valve, Union & PT Port, Additional Tapping for Optional Accessory, 600 WOG (1/2"-1"), 500 WOG (1-1/4"-2")

Part Number	Size	Body Connection	Tailpiece Selection	Weight (Lbs)
NT-A_ _	1/2"	E.g. F	E.g. F	1
NT-B_ _	3/4"	-	-	1.3
NT-C_ _	1"	-	-	2.3
NT-D_ _	1-1/4"	-	-	2.5
NT-E_ _	1-1/2"	-	-	3.5
NT-F_ _	2"	-	-	5.3

Optional Accessories: Drain Valve - Handle Extension - Air Vent - PT Port Extension - Memory Stop



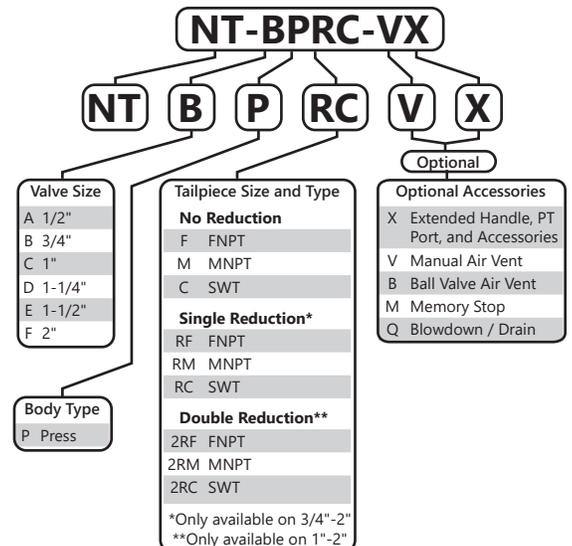
Terminator N Press - 100% Full Port Multi-Function Valve

Integrated Ball Valve, Union & PT Port, Additional Tapping for Optional Accessory, 250 WOG

Part Number	Size	Body Connection	Tail Piece Selection	Weight (Lbs)
NT-AP_ _	1/2"	Press	E.g. F	1
NT-BP_ _	3/4"	Press	-	1.3
NT-CP_ _	1"	Press*	-	2.3
NT-DP_ _	1-1/4"	Press*	-	2.5
NT-EP_ _	1-1/2"	Press*	-	3.5
NT-FP_ _	2"	Press*	-	5.3

Optional Accessories: Drain Valve - Handle Extension - Air Vent - PT Port Extension - Memory Stop

* 1"-2" Terminator N Press is a FNPT body with MNPT x Press adapter



Note: Information subject to change without notice.

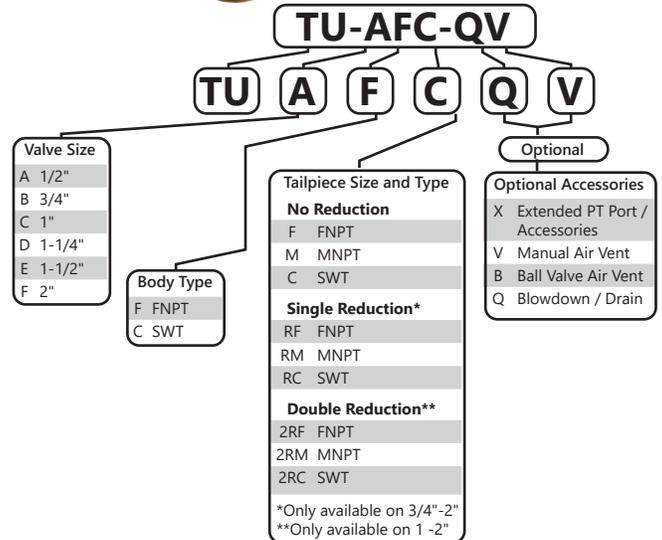
Unions

Terminator U

Hydronic Union, PT Port, Accessory Taps, 400 WOG

Part Number	Size	Body Connection / PT Port Side	Tailpiece Selection	Weight (Lbs)
TU-A_ _	1/2"	E.g. F	E.g. F	0.6
TU-B_ _	3/4"	-	-	0.7
TU-C_ _	1"	-	-	0.9
TU-D_ _	1-1/4"	-	-	1.3
TU-E_ _	1-1/2"	-	-	1.9
TU-F_ _	2"	-	-	3

Optional Accessories: Drain/Blowdown Valve - Air Vent - PT Port & Accessory Extensions



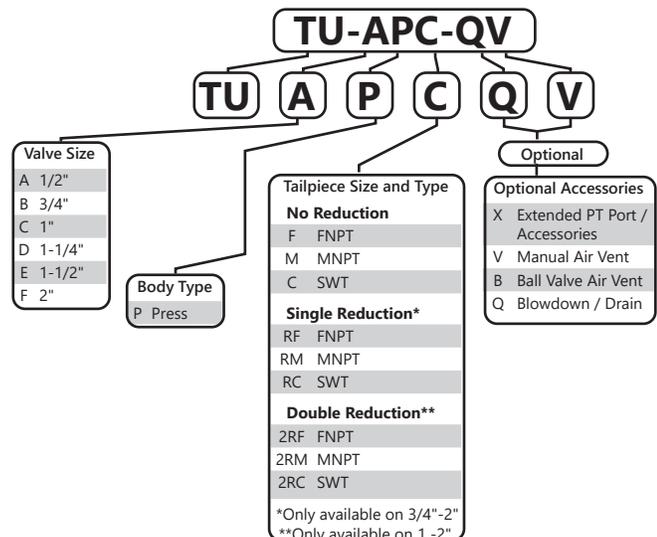
Terminator U Press

Hydronic Union, PT Port, Accessory Taps, 250 WOG

Part Number	Size	Body Connection / PT Port Side	Tailpiece Selection	Weight (Lbs)
TU-AP_	1/2"	Press	E.g. F	0.6
TU-BP_	3/4"	Press	-	0.7
TU-CP_	1"	Press*	-	1.2
TU-DP_	1-1/4"	Press*	-	1.6
TU-EP_	1-1/2"	Press*	-	2.6
TU-FP_	2"	Press*	-	3.9

Optional Accessories: Drain/Blowdown Valve - Air Vent - PT Port & Accessory Extensions

* 1"-2" Terminator U Press is a FNPT Body with MNPT x Press Adapter



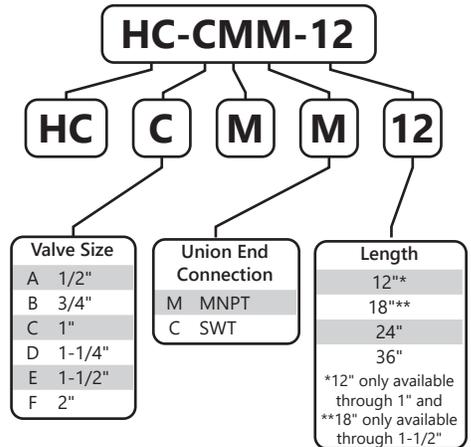
Note: Information subject to change without notice.

Flexible Hose Connectors

Flexible Hose Connectors

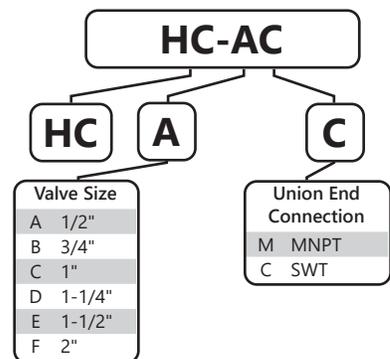
Stainless Steel Braided Hose with EPDM Inner Core, MNPT x Female Swivel, 1/2"-1" NPSM Gasketless Male Cone to Adapter Connection MNPT or Copper Sweat, 1-1/4"-2" BA-U Gasket Male Fitting to Adapter Connection MNPT or Copper Sweat, ASTM E84 Fire Rated

Part Number	Size	Fixed End Connection	Swivel / Union End Selection	Length	Weight (Lbs)
HC-AM_-12	1/2"	MNPT	E.g. C	12"	0.5
HC-AM_-18	1/2"	MNPT	-	18"	0.6
HC-AM_-24	1/2"	MNPT	-	24"	0.7
HC-AM_-36	1/2"	MNPT	-	36"	0.8
HC-BM_-12	3/4"	MNPT	-	12"	0.9
HC-BM_-18	3/4"	MNPT	-	18"	1
HC-BM_-24	3/4"	MNPT	-	24"	1.2
HC-BM_-36	3/4"	MNPT	-	36"	1.5
HC-CM_-12	1"	MNPT	-	12"	1.5
HC-CM_-18	1"	MNPT	-	18"	1.7
HC-CM_-24	1"	MNPT	-	24"	1.9
HC-CM_-36	1"	MNPT	-	36"	2.5
HC-DM_-18	1-1/4"	MNPT	-	18"	2.6
HC-DM_-24	1-1/4"	MNPT	-	24"	3.1
HC-DM_-36	1-1/4"	MNPT	-	36"	3.6
HC-EM_-18	1-1/2"	MNPT	-	18"	3.6
HC-EM_-24	1-1/2"	MNPT	-	24"	4.1
HC-EM_-36	1-1/2"	MNPT	-	36"	5.1
HC-FM_-24	2"	MNPT	-	24"	6.8
HC-FM_-36	2"	MNPT	-	36"	7.3



Flexible Hose Replacement Connectors

Part Number	Size	Body Connection	Swivel / Union End Selection	Weight (Lbs)
HC-A_	1/2"	Male X Cone	E.g. C	0.1
HC-B_	3/4"	Male X Cone	-	0.2
HC-C_	1"	Male X Cone	-	0.4
HC-D_	1-1/4"	Male X Gasket	-	0.6
HC-E_	1-1/2"	Male X Gasket	-	0.8
HC-F_	2"	Male X Gasket	-	1



Flexible Hose Replacement Gasket

Part Number	Size	Description	Weight (Lbs)
HCD-Gasket	1-1/4"	BA-U Fiber Gasket	0.01
HCE-Gasket	1-1/2"	BA-U Fiber Gasket	0.01
HCF-Gasket	2"	BA-U Fiber Gasket	0.01



Note: Information subject to change without notice.

H100NE - Full Port Ball Valve FNPT x FNPT

Forged Brass Body, TEA Coated Brass Ball, Brass Stem with Double Viton® O-Rings, 600 WOG (1/2"-3/4"), 500 WOG (1"-2")

Part Number	Size	Valve Connection Type	Weight (Lbs)
H100-703	1/2"	FNPT X FNPT	0.5
H100-704	3/4"	FNPT X FNPT	0.8
H100-705	1"	FNPT X FNPT	1.3
H100-706	1-1/4"	FNPT X FNPT	2
H100-707	1-1/2"	FNPT X FNPT	2.8
H100-708	2"	FNPT X FNPT	4



H100CG - Lead Free Full Port Ball Valve Sweat x Sweat

Forged Brass Body, TEA Coated Brass Ball, Brass Stem with Double Viton® O-Rings, 600 WOG (1/2"-3/4"), 500 WOG (1"-2")

Part Number	Size	Valve Connection Type	Weight (Lbs)
H100-813	1/2"	SWT X SWT	0.5
H100-814	3/4"	SWT X SWT	0.8
H100-815	1"	SWT X SWT	1.3
H100-816	1-1/4"	SWT X SWT	2
H100-817	1-1/2"	SWT X SWT	2.8
H100-818	2"	SWT X SWT	4



H-100SS - Full Port Ball Valve with Stainless Steel Trim FNPT x FNPT

Forged Brass Valve with TEA Coated Body, 316 Stainless Steel Ball and Stem with Double Viton® O-Rings, 600 WOG (1/2"-3/4"), 500 WOG (1"-2")

Part Number	Size	Valve Connection Type	Weight (Lbs)
H100-503	1/2"	FNPT X FNPT	0.5
H100-504	3/4"	FNPT X FNPT	0.8
H100-505	1"	FNPT X FNPT	1.3
H100-506	1-1/4"	FNPT X FNPT	2
H100-507	1-1/2"	FNPT X FNPT	2.8
H100-508	2"	FNPT X FNPT	4



Note: Information subject to change without notice.

Valves

H100P - Full Port Ball Valve Press x Press

Forged Brass Body, Chrome Plated Brass Ball, Brass Stem with Double Viton® O-Ring, 250 WOG

Part Number	Size	Valve Connection Type	Weight (Lbs)
H100-203	1/2"	Press X Press	0.6
H100-204	3/4"	Press X Press	1
H100-205	1"	Press X Press	1.6
H100-206	1-1/4"	Press x Press	1.9
H100-207	1-1/2"	Press x Press	3.25
H100-208	2"	Press x Press	4.85



H100FM- Full Port Ball Valve FNPT x MNPT

Forged Brass Body, Chrome Plated Brass Ball, Brass Stem with Double Viton® O-Ring, 600 WOG (1/4"-3/4"), 500 WOG (1")

Part Number	Size	Valve Connection Type	Weight (Lbs)
H100-601	1/4"	FNPT X MNPT	0.3
H100-602	3/8"	FNPT X MNPT	0.4
H100-603	1/2"	FNPT X MNPT	0.5
H100-604	3/4"	FNPT X MNPT	0.9
H100-605	1"	FNPT X MNPT	1.4



Terminator BFV - Lugged Type with Positioning Handle

ANSI Class 125 Lugged Cast Iron BFV with EPDM seats, 410SS Stem, CF8M/SS Disc, 200 PSI

Part Number	Size	Valve Connection Type	Weight (Lbs)
BF-GLL	2-1/2"	Lug X Lug	12.5
BF-HLL	3"	Lug X Lug	12.5
BF-ILL	4"	Lug X Lug	20.5
BF-JLL	6"	Lug X Lug	28
BF-KLL*	8"	Lug X Lug	45.5

Optional Accessories: Gear Operator 2-1/2" - 8"

Note: Wafer available

*BF-KLL does not include lever handle

**Price reflects no handle



Terminator BFV Gear Operator

Part Number	Size	Weight (Lbs)
BG02-3	2-1/2" - 3"	12.5
BG04	4"	12.5
BG05-6	6"	20.5
BG08	8"	28



T-521G Inline Check Valve

Threaded Connection, 300 WOG, Class 150

Part Number	Size	Weight (Lbs)
105-603G	1/2"	0.34
105-604G	3/4"	0.39
105-605G	1"	0.64
105-606G	1-1/4"	1.08
105-607G	1-1/2"	1.19
105-608G	2"	2.25



S-521G - Inline Check Valve

Bolted Bonnet, Solid Wedge, OS & Y, Class 125

Part Number	Size	Weight (Lbs)
105-613G	1/2"	0.33
105-614G	3/4"	0.41
105-615G	1"	0.63
105-616G	1-1/4"	1.08
105-617G	1-1/2"	1.25
105-618G	2"	2.63



Flushing By Pass

BODY ONLY (No Union Nuts or Fittings)

Part Number	Size
TFB-70	70mm
TFB-80	80mm



Cast Iron Valves

F-351 Cast Iron Gate Valve

Bolted Bonnet, Non-Rising Stem, Solid Wedge, Class 125

Part Number	Size	Weight (Lbs)
103-525	2-1/2"	20
103-503	3"	25
103-504	4"	45
103-506	6"	83
103-508	8"	113



F-361 Cast Iron Gate Valve

Bolted Bonnet, Solid Wedge, OS & Y, Class 125

Part Number	Size	Weight (Lbs)
103-625	2-1/2"	48
103-603	3"	59
103-603	4"	105
103-606	6"	194
103-608	8"	272
103-610	10"	438
103-612	12"	608



F-591 Cast Iron Gate Valve

Wafer Style, Double Door, Aluminum Bronze Disc, Class 125

Part Number	Size	Weight (Lbs)
105-925	2-1/2"	11
105-903	3"	13
105-904	4"	20
105-906	6"	33
105-908	8"	62



Hydronic Accessories

Ball Valve Air Vent

Forged Brass Body, Chrome Plated Brass Ball, Brass Stem with Double Viton® O-Rings, 600 WOG

Part Number	Size	Valve Connection Type	Valve Connection Type	Weight (Lbs)
H100-398	1/4"	1/4" FNPT	1/8" MNPT	0.2
H100-399	1/4"	1/4" FNPT	1/4" MNPT	0.2
H100-400	1/4"	1/4" FNPT	1/4" FNPT	0.2



Drain or Blowdown Valve with 3/4" Garden Hose Male

Forged Brass Body, Chrome Plated Brass Ball, Brass Stem with Double Viton® O-Rings, Cap and Retainer Strap, 600 WOG

Part Number	Size	Inlet Connection	Outlet Connection	Weight (Lbs)
TQ-B1	1/4"	1/4" MNPT	3/4" GH	0.4
TQ-B3-N	1/2"	1/2" MNPT	3/4" GH	0.7
TQ-B4	3/4"	3/4" MNPT	3/4" GH	1.0



Picture Shown is TQ-B1

Manual Air Vent

Coin Operated, Screwdriver Slot

Part Number	Standard / Extension	Size	Inlet Connection	Compatible With		Weight (Lbs)
				TB / NT / TU	TA / TY	
TV-A2	Standard	1/4"	MNPT	1/2" - 2"	-	0.1
TV-A2*	Standard	1/2"	MNPT	-	1/2" - 1"	0.3
TV-A2**	Standard	3/4"	MNPT	-	1-1/4" - 2"	0.3
TVX-A2-N	Extension	1/4"	MNPT	1/2" - 2"	-	0.3
TVX-A2-N*	Extension	1/2"	MNPT	-	1/2" - 1"	0.3
TVX-A2-N**	Extension	3/4"	MNPT	-	1-1/4" - 2"	0.4

* Includes bushing to install into 1/2" port

** Includes bushing to install into 3/4" port



Hydronic Accessories

Pressure Temperature Port

Brass Body/Cap, Nordel Core, 1000 PSIG, Max. Temp. 350°F

Part Number	Size	Inlet Connection	Port Length	Weight (Lbs)
SP-B	1/4"	MNPT	1-1/2"	0.1

Note: Manual and Automatic Balancing Valves require two pressure temperature ports



Pressure Temperature Port Extension

Brass Body/Cap, Nordel Core, 1000 PSIG, Max. Temp. 350°F

Part Number	Length	Weight (Lbs)
PTE	2-1/2"	0.2

Note: Manual and Automatic Balancing Valves require two pressure temperature ports



Ball Valve Memory Stop

Forged Brass Stop, 0-100% Indicator Pad, Compatible with TX-MS Series Handle Extensions

Part Number	Compatible With			Weight (Lbs)
	TB	NT	H100	
MS-A	1/2", 3/4"	1/2"	1/2"	0.05
MS-B	1"	3/4"	3/4"	0.05
MS-C	1-1/4", 1-1/2"	1", 1-1/4"	1", 1-1/4"	0.05
MS-D	2"	1-1/2", 2"	1-1/2", 2"	0.15



Ball Valve Handle Extension

2" Long Brass Extension Compatible with Ball Valve Memory Stop*

Part Number	Compatible With					Weight (Lbs)
	TB	TA	TY	NT	H100	
TX-A-MS	1/2", 3/4"	1/2"	1/2"	1/2"	1/2"	0.4
TX-B-MS	1"	3/4", 1"	3/4", 1"	3/4"	3/4"	0.5
TX-C-MS	1-1/4", 1-1/2"	1-1/4", 1-1/2"	1-1/4", 1-1/2"	1", 1-1/4"	1", 1-1/4"	0.6
TX-D-MS	2"	2"	2"	1-1/2", 2"	1-1/2", 2"	0.6

* Memory stop not included

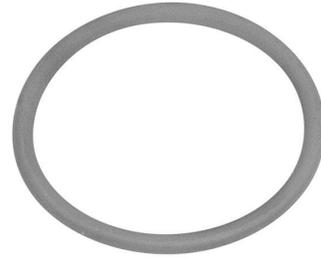


Replacement Parts

Terminator 93 Union Body Series Replacement Union O-Rings

Viton® O-Ring for Union Seal on Terminator 93 Series Union Body

Part Number	Size	Compatible With	Weight (Lbs)
VOR-C	3/4" - 1"	Fits Terminator 93 Series	0.01



Terminator B & Terminator N Replacement

Viton® O-Ring for Union Seal on Terminator B & Terminator N

Part Number	Size	Compatible With	Weight (Lbs)
VOR-A	1/2"	Fits 1/2" Terminator N	0.01
VOR-B	3/4"	Fits 3/4" Terminator N & 1/2" & 3/4" TB Series	0.01
VOR-C	1"	Fits 1" Terminator N & TB Series	0.01
VOR-D	1-1/4"	Fits 1-1/4" Terminator N & TB Series	0.01
VOR-E	1-1/2"	Fits 1-1/2" Terminator N & TB Series	0.02
VOR-F	2"	Fits 2" Terminator N & TB Series	0.02



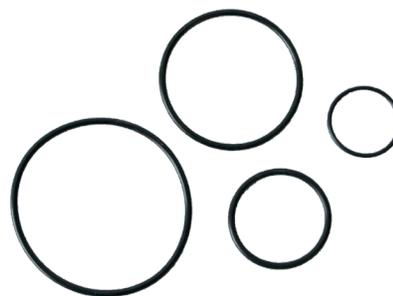
Replacement Parts

Terminator U, Y & A Replacement Union Gaskets

EPDM O-Ring

Part Number	Size	Compatible With	Weight (Lbs)
VOR-N-1	1/2"	Fits Terminator U, Y & A Series	0.01
VOR-N-2	3/4"-1"	Fits Terminator U, Y & A Series	0.01
VOR-N-3	1-1/4"-1-1/2"	Fits Terminator U, Y & A Series	0.01
VOR-N-4	2"	Fits Terminator U, Y & A Series	0.02

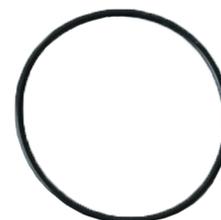
*See HCl Customer Service for valves ordered prior to 2015



Terminator A1/Y1 Replacement Union Gasket

EPDM O-Ring

Part Number	Size	Compatible With	Weight (Lbs)
VOR-N-1	1/2"	Fits 3/4" Compact TA1 & TY1	0.01



Terminator Y Replacement Filters

304 Stainless Steel Filters - 20 Mesh

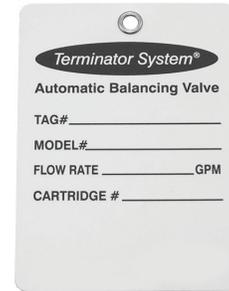
Part Number	Size	Description	Weight (Lbs)
H221-233	1/2"	Terminator Y 20 Mesh 304 Filter	0.01
H221-234	3/4" - 1"	Terminator Y 20 Mesh 304 Filter	0.01
H221-235	1-1/4" - 1-1/2"	Terminator Y 20 Mesh 304 Filter	0.01
H221-236	2"	Terminator Y 20 Mesh 304 Filter	0.03



Replacement Parts

TB, TA & PICV Replacement Tag

Part Number	Size	Description	Weight (Lbs)
TB-RT	ALL Sizes	Terminator B Balancing Valve Tag	0.01
TB-RTA	ALL Sizes	Terminator A Balancing Valve Tag	0.01
TB-RTE	ALL Sizes	Terminator PICV Series Valve Tag	0.01



Assembly Charges

Piping Package Connection Charges

Labor to Mount Control Valves, Flex Hoses or Custom Packages

Part Number	Size	Description
TL-A	1/2"	Piping Connection Charge - Per Connection
TL-B	3/4"	Piping Connection Charge - Per Connection
TL-C	1"	Piping Connection Charge - Per Connection
TL-D	1-1/4"	Piping Connection Charge - Per Connection
TL-E	1-1/2"	Piping Connection Charge - Per Connection
TL-F	2"	Piping Connection Charge - Per Connection

Note: Information subject to change without notice.

Fittings

Brass Tee

Special Order

Part Number	Size
TT-A	1/2" FNPT
TT-B	3/4" FNPT
TT-C	1" FNPT
TT-D	1-1/4" FNPT
TT-E	1-1/2" FNPT
TT-F	2" FNPT



Brass Reducing Coupling

Part Number	Size
H119-KF	3/4" FNPT X 1/2" FNPT
H119-MK	1" FNPT X 3/4" FNPT
H119-QM	1-1/4" FNPT X 1" FNPT
H119-RM	1-1/2" FNPT X 1" FNPT
H119-RQ	1-1/2" FNPT X 1-1/4" FNPT
H119-SM	2" FNPT X 1" FNPT
H119-SR	2" FNPT X 1-1/2" FNPT



Brass Female x Female Coupling

Part Number	Size
HAB-103F	1/2" FNPT X 1/2" FNPT
HAB-103K	3/4" FNPT X 3/4" FNPT
HAB-103M	1" FNPT X 1" FNPT
HAB-103Q	1-1/4" FNPT X 1-1/4" FNPT
HAB-103R	1-1/2" FNPT X 1-1/2" FNPT
HAB-103S	2" FNPT X 2" FNPT



Brass Elbow Coupling

Part Number	Size
L-A	1/2" FNPT X FNPT 90 Elbow
L-B	3/4" FNPT X FNPT 90 Elbow
L-C	1" FNPT X FNPT 90 Elbow
L-D	1-1/4" FNPT X FNPT 90 Elbow
L-E	1-1/2" FNPT X FNPT 90 Elbow
L-F	2" FNPT X FNPT 90 Elbow
L-A1	1/2" FNPT X MNPT Street 90
L-B1	3/4" FNPT X MNPT Street 90
L-C1	1" FNPT X MNPT Street 90



Note: Information subject to change without notice.

Brass Hex Bushing

Part Number	Size
H110-CA	1/4" MNPT X 1/8" FNPT
H110-EC	3/8" MNPT X 1/4" FNPT
H110-FA	1/2" MNPT X 1/8" FNPT
H110-FC	1/2" MNPT X 1/4" FNPT
H110-FE	1/2" MNPT X 3/8" FNPT
H110-KC	3/4" MNPT X 1/4" FNPT
H110-KE	3/4" MNPT X 3/8" FNPT
HB-BA	3/4" MNPT X 1/2" FNPT
HB-CA	1" MNPT X 1/2" FNPT
HB-CB	1" MNPT X 3/4" FNPT
HB-DA	1-1/4" MNPT X 1/2" FNPT
HB-DB	1-1/4" MNPT X 3/4" FNPT
HB-DC	1-1/4" MNPT X 1" FNPT
HB-EB	1-1/2" MNPT X 3/4" FNPT
HB-EC	1-1/2" MNPT X 1" FNPT
HB-ED	1-1/2" MNPT X 1-1/4" FNPT
HB-FC	2" MNPT X 1" FNPT
HB-FD	2" MNPT X 1-1/4" FNPT
HB-FE	2" MNPT X 1-1/2" FNPT



Note: Information subject to change without notice.

Fittings

Brass Nipples

Part Number	Size
H122-KF	3/4" MIP X 1/2" MIP Hex Nipple
Close Nipples	
CN-A	1/2"
CN-B	3/4"
CN-C	1"
CN-D	1-1/4"
CN-E	1-1/2"
CN-F	2"
1/2" Nipples	
N-1/2 X 1-1/2	1/2" X 1-1/2"
N-1/2X2	1/2" X 2"
N-1/2X2-1/2	1/2" X 2-1/2"
N-1/2X3	1/2" X 3"
N-1/2X4	1/2" X 4"
N-1/2X5	1/2" X 5"
N-1/2X5-1/2	1/2" X 5-1/2"
N-1/2X6	1/2" X 6"
N-1/2X7	1/2" X 7"
N-1/2X9	1/2" X 9"
N-1/2X12	1/2" X 12"
3/4" Nipples	
N-3/4X3	3/4" X 3"
N-3/4X4	3/4" X 4"
N-3/4X5	3/4" X 5"
N-3/4X12	3/4" X 12"
1" Nipples	
N-1X3	1" X 3"
N-1X4	1" X 4"
N-1X5	1" X 5"
1-1/4" Nipples	
N-1-1/4X3	1-1/4" X 3"
N-1-1/4X5	1-1/4" X 5"
N-1-1/4X6	1-1/4" X 6"
N-1-1/4X8	1-1/4" X 8"
1-1/2" Nipples	
N-1-1/2X3	1-1/2" X 3"
N-1-1/2X5	1-1/2" X 5"
N-1-1/2X6	1-1/2" X 6"
N-1-1/2X8	1-1/2" X 8"
2" Nipples	
N-2X3	2" X 3"
N-2X6	2" X 6"
N-2X10	2" X 10"



Note: Information subject to change without notice.

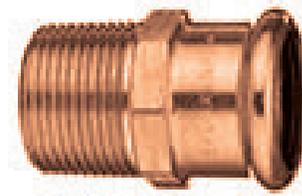
Copper to Male Adapters

Part Number	Nominal Size	Description
CA-A	1/2"	1/2" MNPT X 1/2" SWT
CA-AB	1/2" X 3/4"	1/2" MNPT X 3/4" SWT
CA-B	3/4"	3/4" MNPT X 3/4" SWT
CA-BA	3/4" X 1/2"	3/4" MNPT X 1/2" SWT
CA-C	1"	1" MNPT X 1" SWT
CA-CA	1" X 1/2"	1" MNPT X 1/2" SWT
CA-CB	1" X 3/4"	1" MNPT X 3/4" SWT
CA-CD	1" X 1-1/4"	1" MNPT X 1-1/4" SWT
CA-D	1-1/4"	1-1/4" MNPT X 1-1/4" SWT
CA-DC	1-1/4" X 1"	1-1/4" MNPT X 1" SWT
CA-E	1-1/2"	1-1/2" MNPT X 1-1/2" SWT
CA-F	2"	2" MNPT X 2" SWT



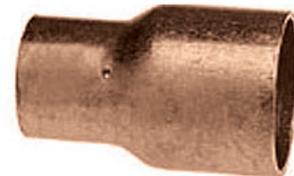
Copper Press to Male Adapters

Part Number	Nominal Size	Description	Weight (Lbs)
PF-AM	1/2"	5/8" O.D. X 1/2" MNPT	0.1
PF-BM	3/4"	7/8" O.D. X 3/4" MNPT	0.2
PF-CM	1"	1-1/8" O.D. X 1" MNPT	0.3
PF-DM	1-1/4"	1-3/8" O.D. X 1-1/4" MNPT	0.35
PF-EM	1-1/2"	1-5/8" O.D. X 1-1/2" MNPT	0.7
PF-FM	2"	2-1/8" O.D. X 2" MNPT	0.9

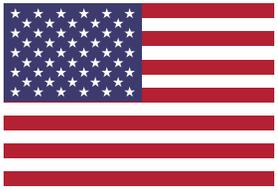


Copper Fitting Reducer

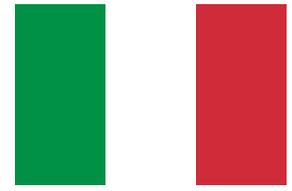
Part Number	Nominal Size	Description	Weight (Lbs)
H118-FE	1/2" X 3/8"	5/8" O.D. X 1/2" O.D. SWT	0.05
H118-FC	1/2" X 1/4"	5/8" O.D. X 3/8" O.D. SWT	0.05
H118-KF	3/4" X 1/2"	7/8" O.D. X 5/8" O.D. SWT	0.05
H118-KE	3/4" X 3/8"	7/8" O.D. X 1/2" O.D. SWT	0.05
H118-MF	1" X 1/2"	1-1/8" O.D. X 5/8" O.D. SWT	0.05
H118-MK	1" X 3/4"	1-1/8" O.D. X 7/8" O.D. SWT	0.1
H118-QF	1-1/4" X 1/2"	1-3/8" O.D. X 5/8" O.D. SWT	0.15
H118-QK	1-1/4" X 3/4"	1-3/8" O.D. X 7/8" O.D. SWT	0.1
H118-QM	1-1/4" X 1"	1-3/8" O.D. X 1-1/8" O.D. SWT	0.15
H118-RF	1-1/2" X 1/2"	1-5/8" O.D. X 5/8" O.D. SWT	0.2
H118-RM	1-1/2" X 1"	1-5/8" O.D. X 1-1/8" O.D. SWT	0.2
H118-RQ	1-1/2" X 1-1/4"	1-5/8" O.D. X 1-3/8" O.D. SWT	0.2
H118-SM	2" X 1"	2-1/8" O.D. X 1-1/8" O.D. SWT	0.35
H118-SQ	2" X 1-1/4"	2-1/8" O.D. X 1-3/8" O.D. SWT	0.35



Note: Information subject to change without notice.



Buy American Act 41 USC 10a-10d



Many HCl products comply with the Buy American Act (41 USC 10a-10d). As with all federal building projects before 2009, recipients of the American Recovery and Reinvestment Act of 2009 must comply with the previously established Buy American Act (41 USC 10a-10d) provisions by either certifying that the materials purchased for these projects meet the criteria or apply for a waiver stating that the requirements are consistent with the public interest. All HCl products produced by Fratelli Pettinaroli meet the criteria for the Buy American Act either by domestic end product definition or public interest exemption through establishment of trade with qualifying countries.

The Buy American Act restricts the purchase of supplies that are not domestic end products. It uses a two-part test to define a domestic end product: 1) the article must be manufactured in the U.S.; and 2) the cost of the domestic components must exceed 50% of the cost of all the components. The Act requires that procurement of covered items in excess of \$3,000, the micro-purchase threshold, for supplies and construction materials must be produced in the U.S., its possessions or qualifying countries that are exempt unless the Contracting Officer determines that satisfactory quality and sufficient quantity "cannot be procured as and when needed at the United States market prices."

The Trade Agreements Act FAR 52.225-12 states further that the Contracting Officer has the authority to approve a waiver to the Buy American Act under several conditions including inconsistency with public interest. The public interest exemption covers materials originating in the following qualifying countries: Australia, Belgium, Canada, Denmark, Egypt, Germany, France, Greece, Israel, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Switzerland, Turkey, United Kingdom, Northern Ireland and others.

Please feel free to contact HCl if you have any questions regarding this important public policy.

TERMS AND CONDITIONS OF SALE

UNLESS OTHERWISE SPECIFIED IN WRITING THE FOLLOWING WILL PREVAIL

GENERAL

The possession of the Hydronic Components, Inc. catalog and/or literature is not to be construed as an offer to sell the goods listed herein. All orders shall be subject to the approval and acceptance of Hydronic Components, Inc., herein after referred to as the Company, at its principal office in Warren, Michigan.

All Company proposals, all acceptances of Purchaser's orders, and all sales by the Company are expressly limited to, and expressly made conditional upon, the Purchaser's acceptance and assent to the Standard Terms and Conditions of Sale as set forth herein. This is notwithstanding receipt of, or acknowledgment of, the Purchaser's order form or specifications containing additional or different provisions, or conflicting oral representations by any agent or employee of the Company. No waiver, change or modification of any terms or conditions on the face or reverse hereof shall be binding on the Company unless made in writing and signed by an officer of the Company.

PRICES AND TERMS

All prices are subject to change without notice. Minimum billing is \$50.00. Terms NET 30 days are subject to approved credit. Shipments can be expected, prior to establishing credit, by including check with order for full amount or specifying C.O.D.

Any order originating outside the contiguous United States, Alaska, Hawaii or Canada shall be subject to an irrevocable letter of Credit confirmed by a U.S. bank or a sight draft. A finance charge at a periodic rate of 1-1/2% per month (annual percentage of 18%) will be added to unpaid invoices over 60 days old; said interest shall commence from the date of invoice.

PERFORMANCE GUARANTEE

The Company guarantees to the original purchaser that the equipment of its manufacture will perform at rated capacity as stated only when (1) properly installed, connected, started, operated and maintained in accordance with Company Instruction(s), and/or Information Guide(s), as revised from time to time, (2) used for the applications specified and (3) used in the environments as specified or as limited. If equipment is part of a greater system, the Company accepts responsibility only for the equipment manufactured by it.

THIS EQUIPMENT MUST BE INSTALLED, OPERATED, AND MAINTAINED IN ACCORDANCE WITH THE APPROPRIATE INSTRUCTIONS(S) AND/OR INFORMATION GUIDE(S), AS REVISED FROM TIME TO TIME. PURCHASES OF THE COMPANY'S EQUIPMENT WAIVE SUBROGATION ON ALL ITEMS COVERED UNDER THEIR OWN OR OTHER INSURANCE.

LIMITED WARRANTY ON THE EQUIPMENT ITSELF

The Company, for a period of five year from the date of shipment, warrants each product or system of its own manufacture to the original purchaser to be free from defects in material and workmanship under normal use, service and maintenance. Normal use, service and maintenance means:

Not in excess of the maximum pressures, temperatures, volumes and rated capacities or other parameters specified in the Company's Product Bulletins, Specification Sheets, and/or quotation(s). Using only fluids specified in the Company's Product Bulletins, Specification Sheets, and/or quotations.

Operation and maintenance in compliance with the appropriate instructions and/or Information Guides.

The remedy under this warranty is limited to the repair or replacement of any parts found upon examination by the Company to have been defective, and shall not include removal and reinstallation costs involved in the exchange. The remedy shall be conditioned upon receipt of written notice by the Company of any alleged defects promptly after discovery thereof within the warranty period. Generally, consent, if given, will be upon the condition that the purchaser assumes and prepays all carrier charges.

THIS WARRANTY IS EXCLUSIVE. THE COMPANY EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE OR, ANY PURPOSE.

No person, including any dealer or representative of the Company, is authorized to make any representations concerning the Company products or systems on behalf of the Company or to assume for the Company the obligations contained in this warranty. The Company reserves the right to make design and other changes, modifications or improvements upon its products or systems, without any obligation to install same on any previously sold or delivered products or systems.

This warranty gives the purchaser specific legal rights. The purchaser may have other rights that vary from state to state.

LIMITATION OF LIABILITY

It is expressly agreed that the liability is limited and the Company does not function as an insurer. The purchaser and/or user agree that the Company is not liable for loss, harm or damage due directly or indirectly to any occurrence of consequence there of. If the Company should be found liable to anyone in any theory (except any express warranty where the remedy is set forth in this document) for loss, harm, or damage, the liability of the Company shall be limited to the lesser of the actual loss, harm or damage, or the original purchase price of the involved equipment, system or Service when sold (or when Services performed by) the Company to its customer. This liability is exclusive and regardless of cause or origin resulting directly or indirectly to person or property from:

The performance or non-performance of any obligation set forth in this warranty and warranty policy. Any agreement, oral or written, including specifications, between the Company and the customer. Negligence, active, passive or otherwise, of the Company or any of its agents, employees, or independent contractors.

Breach of any judicially imposed warranty or covenant and, Misrepresentation or strict liability involvement.

FREIGHT ALLOWANCE

All prices are FOB Warren, Michigan with full freight prepaid and allowed within the contiguous United States on shipments of \$3,500.00 net or more. Any combination of products, items or sizes may be combined to satisfy the dollar amount required to earn full freight allowance. The Company reserves the right to select the most economical routing and shall not be liable or responsible by reason of the mode or route of shipment nor held responsible for any accessorial charges beyond the standard freight and fuel charges. The company will re-bill for any additional fees that accrue which

include but not limited to lift-gate, redelivery, re-consignment, residential, limited access charges which include delivery to Churches, Schools, Constructions sites, etc.

EXPORT SHIPMENTS

All prices are FOB plant, Warren, Michigan, with full freight prepaid and allowed to Port of Exit on shipments of \$3,500.00 net or more.

PACKAGING

All list prices are based on domestic packaging. For export packaging, contact the factory for pricing.

DELIVERY

The quoted time of delivery is understood to be from date of receipt of all necessary information including Purchaser's approval, if applicable. Any delay in delivery of any installment shall not relieve purchaser of its obligation to accept remaining deliveries. The Company shall not be liable for damages or for cancellation of the contract as a result of any delay due to any cause beyond the Company's reasonable control including, but not limited to, act of God, act of the purchaser, embargo or other governmental acts, regulations or requirements, fire accident, labor disputes, war, civil insurrection or riot, delay in transportation or the inability to obtain necessary labor, materials or manufacturing facilities. In the event of any such delay the date of delivery shall be extended for a period equal to the time lost by reason of the delay. All shipments, unless otherwise specified, shall be FOB shipping point and the purchaser assumes responsibility for damage or loss in transit. The Company shall not be liable or responsible by reason of the mode or route of shipment. Products or goods not of Company manufacture supplied in piece, or as components to a system designed or sold by the Company, are not covered by this warranty. However, the Company will extend to the purchaser the benefit of such adjustment as is obtained from the manufacturer of that component or product. This warranty does not apply to damage caused by any or all of the following circumstances or conditions:

Freight damage.

Parts and/or accessories or components not obtained from or approved by the Company.

Any sequential or incidental damage arising from the use of the product, system or other goods manufactured or sold by the Company.

Misapplication, misuse, abuse, or failure to follow the Product Instruction Sheets and/or Information Guides

SPECIAL PRODUCTS

Special products produced to order, or products not normally stocked, are subject to a 10% overrun or under run. Pattern equipment, tooling, etc., built for the manufacture of purchaser's products shall at all times remain in the possession of the Company. Since such equipment is made or supplied on a non-profit basis, it shall not be removed from the Company's plant except upon payment of a minimum 20% charge: based on the original equipment costs to cover engineering, drafting, and handling. The Company agrees to maintain such equipment except the major repairs or replacement would be at the purchaser's expense. If no orders have been received for production for a period of eighteen months, the Company accepts no liability for the continued existence or availability of such equipment after such period. Written notification advising the customer of the expiration date will not be required of the Company.

BUYER'S PURCHASE ORDER TERMS

The terms on the purchase order shall not change, enlarge, or modify Company's liability or obligations.

SHORTAGE AND BREAKAGE

The Company's responsibility for delivery of materials sold FOB shipping point ends when the receipt is obtained from the consignor of the transportation company. It is agreed that the purchaser shall notify the Company of any shortage within five (5) days from receipt of the material. In the event of loss or damage incurred in transit, the carrier shall be responsible and claims for parts broken or lost in shipment are to be filed with the transportation company by the purchaser.

CANCELLATION OF ORDERS

If, for any reason, the purchaser desires to cancel an order, such cancellation shall only be with written consent of the Company, and then only after payment is made to the Company for all costs incurred which shall include but not be limited to, material, labor, overhead, and reasonable profit.

ORDER CHANGES

Any changes that need to be made to an order while the order is in production which includes but not limited to: line size(s), connection type(s), accessories, additions, deletions, flow rates or fittings will be subject to a \$90/ hour charge. This charge will cover the time associated with production to re-build the order, engineering/ order entry to re-configure the components and to re-process the order, in addition of the cost of the additional components to make corrections.

RETURNS AND RESTOCKING CHARGES

Equipment may be returned to Hydronic Components, Inc. at 7243 Miller Drive, Warren, Michigan 48092, only upon prior written authorization of the Company. Consent, if given, will be upon the condition the purchaser assumes all carrier charges responsibility to damages in transit, and a 25% - 75% restocking charge, based on the complexity and labor required to return equipment to un-assembled components, and then only if the so authorized material is in new and unused condition and returned within one year from the original date of shipment. The credit will be based on the original invoice price or the current price, whichever is lower, less the applicable restocking charge.

SERVICE

Unless otherwise noted herein, the cost of the equipment does not include Service or installation. All Services performed by the Company are subject to purchaser's payment of the Company's prevailing charges plus necessary travel and living expense.

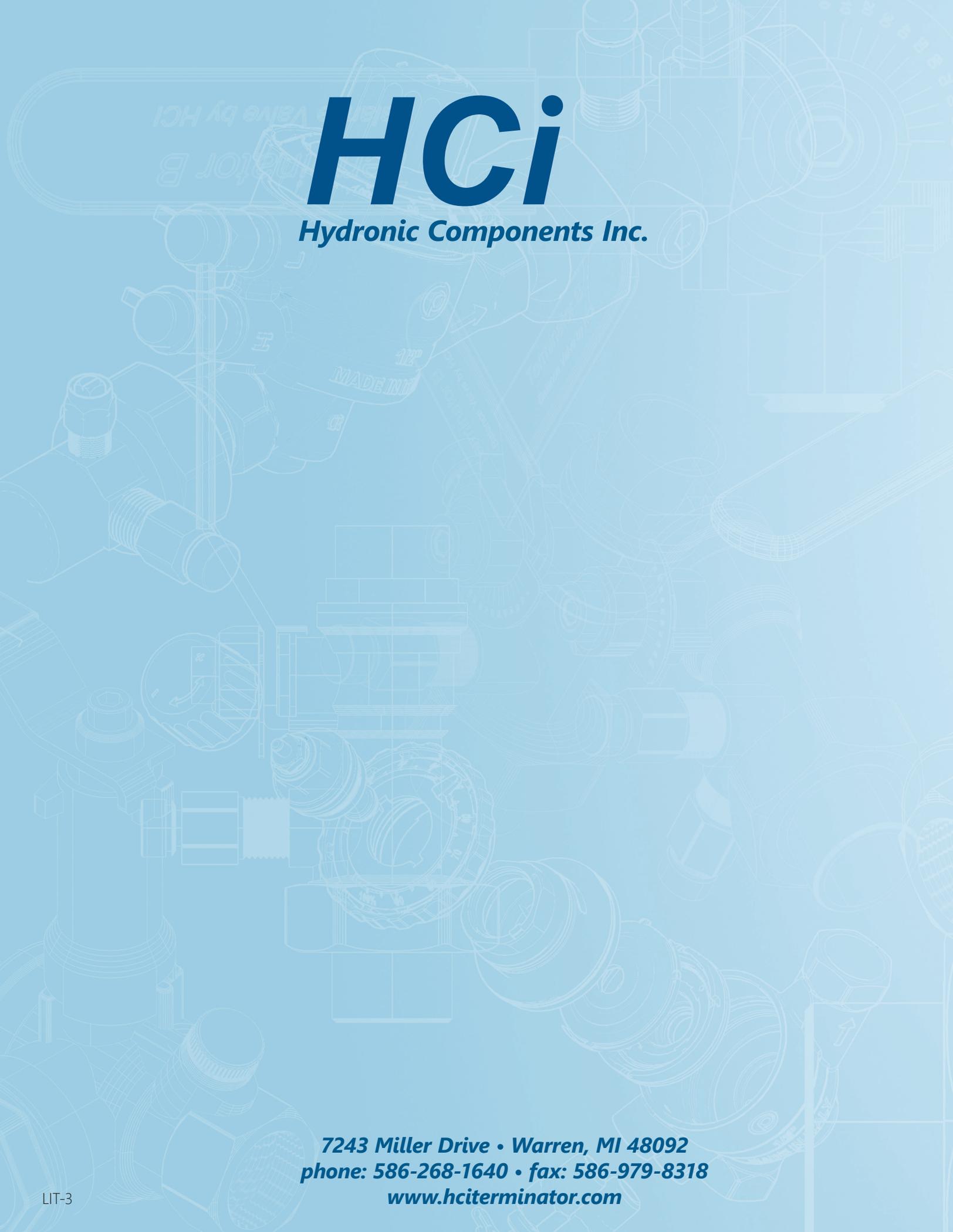
TAXES

Any tax or taxes that may be imposed upon the goods that are the subject of this sale, or upon the sale or delivery, shall be added to and become a part of the contract price.

REGULATIONS

Every contract of sale shall be subject to all applicable state and federal statutes and regulations. The terms of this agreement shall be construed in accordance with the laws of the state of Michigan.

Note: Information subject to change without notice.



Hci

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