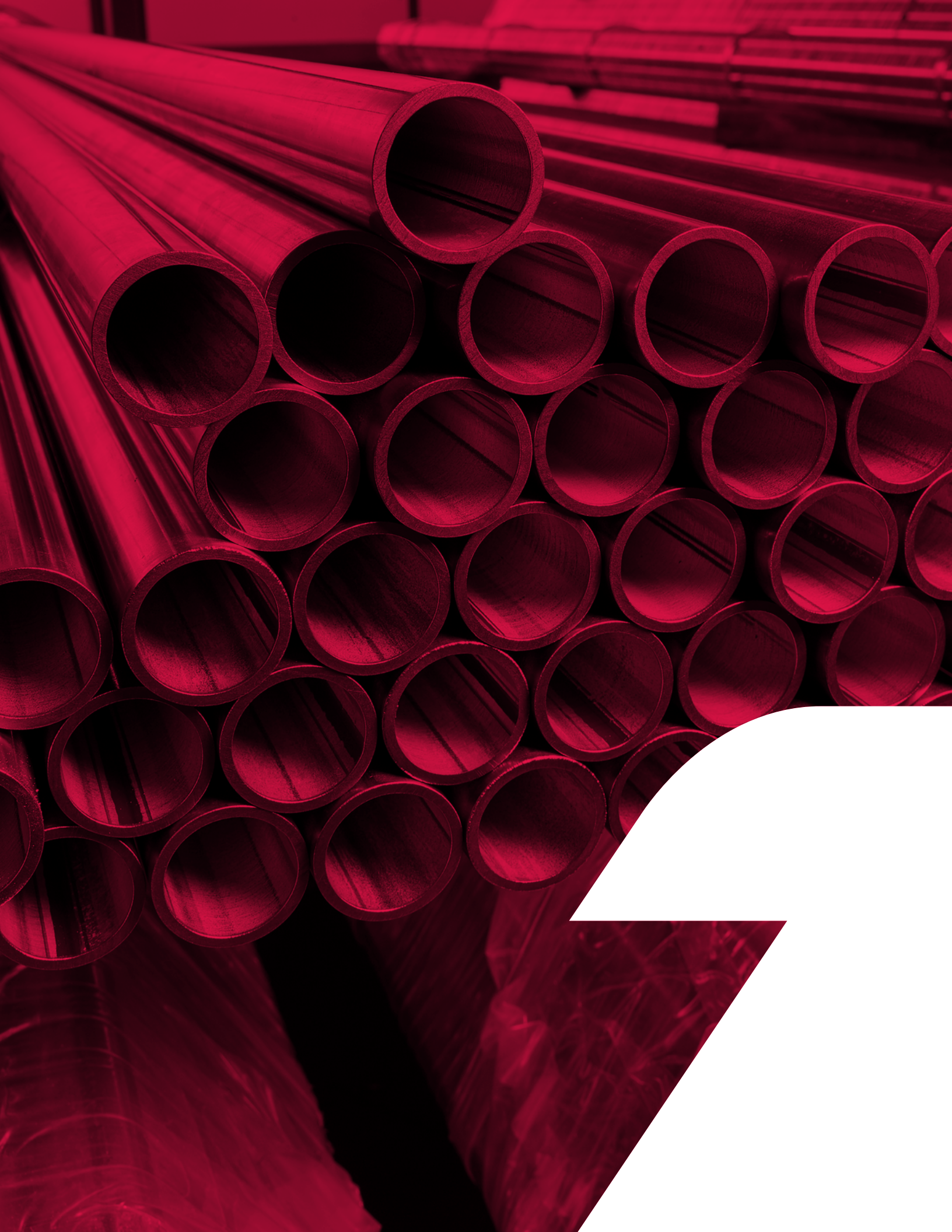
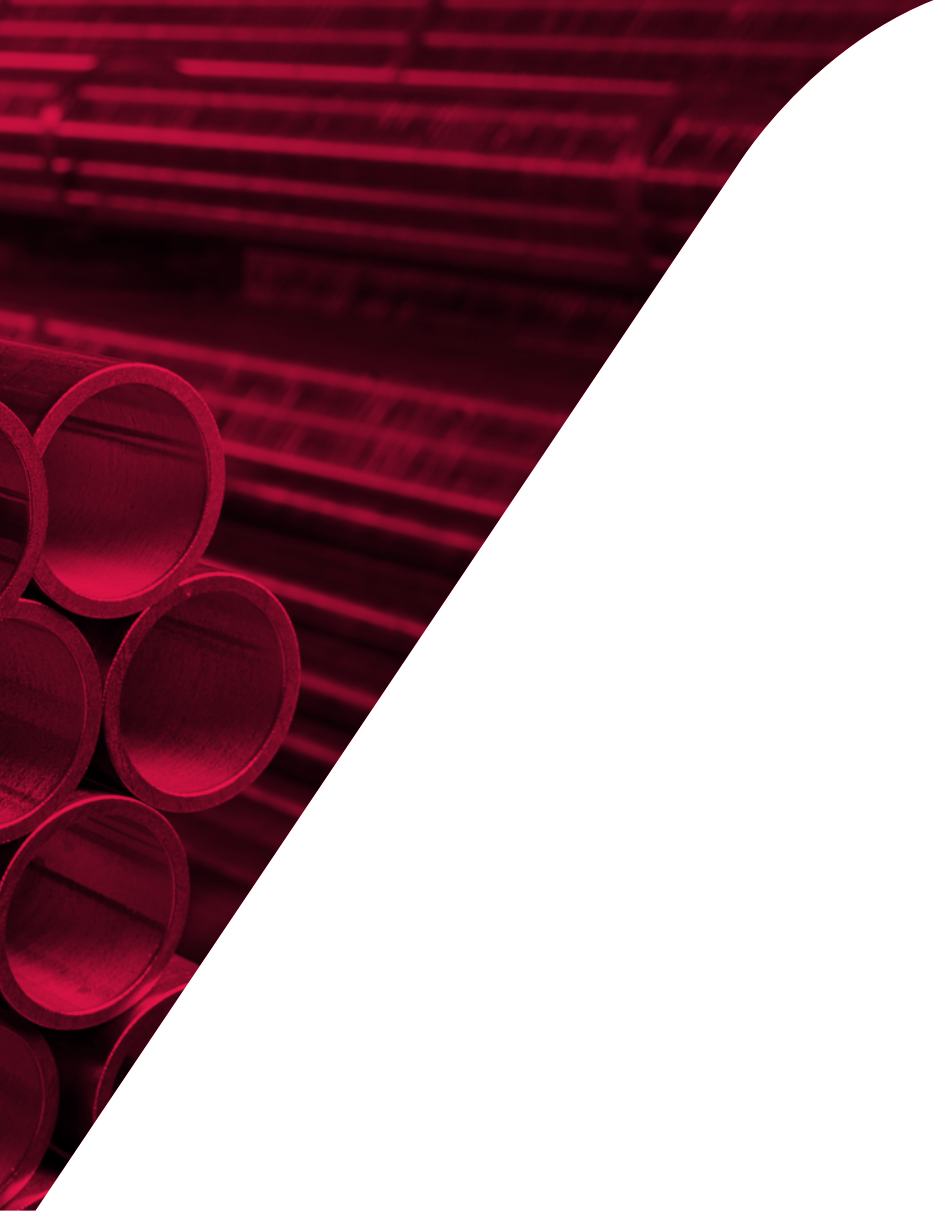
aalberts integrated piping systems

"Apollo"® SmartPress

VSH technology

US submittal package





contents

Apollo® SmartPress

technical data

system data

Apollo® SmartPress is an innovative press connection system designed for joining ½-2" IPS ASTM A312 schedule 5S and 10S stainless steel pipe (approved for use with both AISI type 304/304L or 316/316L stainless). The Apollo® SmartPress product range consists of V-profile IPS press fittings and valves produced from AISI 316L stainless steel alloy that are fitted with patented sealing elements for a guaranteed safe, leak-tight and lasting connection. The Apollo® SmartPress system offers end-users a complete solution with maximum coverage of commercial and industrial applications requiring HNBR, EPDM, or FKM sealing elements.

For each sealing element variation, available Apollo® SmartPress fitting configurations include: couplings, caps, elbows, thread adapters, tees, threaded tees, fitting reducers, flange adapters, van stone flange adapters, and unions; Apollo® SmartPress valve configurations include: optimized single-piece FullFlow ball valves and 3-piece ball valves (stem extensions and press x thread end-connections available).

operating parameters

Apollo® SmartPress products are approved for use with stainless steel pipes according to ASTM A312 in AISI 304/304L or 316/316L (schedule 5S or 10S).

maximum pressure*

- schedule 5S: 300 psi
- schedule 10S: 500 psi

temperature range

- HNBR: -22°F to 212°F (230°F short term)
- EPDM: -31°F to 275°F (302°F short term)
- FKM: -4°F to 392°F (446°F short term)

* Apollo® SmartPress SM500 FullFlow ball valves are rated to a maximum operating pressure of 300 psi regardless of pipe schedule (schedule 5S/10S).

approved applications

- potable water
- heating & cooling
- compressed air
- instrument & utility air
- vacuum
- solar
- steam
- fire sprinkler

Application approval dependent on suitability of selected sealing element's performance characteristics and limitations. Please refer to the Apollo® SmartPress technical data sections for additionally approved applications and sealing element specific requirements.

certifications & listings

press fittings

- IAPMO/ANSI/CAN Z1117 (formerly IAPMO PS 117)
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372
- FM Approvals Class: 1920
- UL 213

press valves

- IAPMO/ANSI Z1157
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

compliant with

- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- NFPA 13, 13R, 13D
- Uniform Plumbing Code (UPC®)
- Uniform Mechanical Code (UMC®)
- National Standard Plumbing Code (NSPC)
- National Plumbing Code of Canada (NPCC)

Standard(s) certification and code compliance are specific to Apollo® SmartPress product/sealing element selection.

warranty

- Apollo® SmartPress fittings: 10-year limited warranty
- Apollo® SmartPress valves: 5-year limited warranty

approved tools

make	model	size range	press jaws/rings
Milwaukee™	M18™ Force Logic™ Long Throw Press Tool (2773-20L)	½–2"	Milwaukee™ IPS-ASP jaws: ½–1" Milwaukee™ IPS-ASP rings + r2 jaw: 1½–2"
	M18™ Force Logic™ Press Tool w/ ONE-KEY (2922-20)	½–¾"	Milwaukee™ IPS-ASP jaws: ½–¾"
Novopress	Novopress ACO202/203XL press tool	½–2"	SmartPress IPS-ASP jaws: ½–1" SmartPress IPS-ASP + ZB221 adapter: 1½–2"
Victaulic	Vic-Press™ PFT510 Press Tool	½–2"	Vic-Press PFT510 rings + adapter: 1½ -2"

VSH technology features

- one material, maximum efficiency (AISI 316)
- silicone-free production process
- patented pre-marked insertion depth for street-end fittings
- patented sealing element technology
  - tactile detection of sealing element presence
  - pipe grip function for optimal alignment and installation
  - mechanical detection of un-pressed connections
- VSH technology 3x safety assurance
  - Leak Before Press®
  - Visu-Control® color-coded material and size identification
  - Visu-Control® visual press indication

Leak Before Press® (LBP)
All Apollo® SmartPress fittings and valves come equipped with Leak Before Press® technology, a built-in mechanical safety feature that allows media to slowly leak for detection of un-pressed connections during initial pressure testing.

Visu-Control® foil (VCF)
All Apollo® SmartPress fittings and valves come equipped with Visu-Control® foil, a isual safety feature consisting of a plastic sleeve on each press-end for ease of material identification and visual press indication. Prior to installation, the color-coded VCF indicates the size and sealing element compound within the press fitting or valve to reduce the risk of misapplication. During the pressing operation, the VCF splits and can easily be removed thereafter; this ensures that un-pressed connections stand out and are easily recognizable prior to system pressurization.

pre-marked insertion depths
Safe and secure connections depend on the correct insertion depths. However, marking the insertion depth can be a time-consuming task. This is why all Apollo® SmartPress plain end and street-end fittings come supplied with a pre-marked insertion depth line that eliminates the need for marking by the installer, promoting faster installation times and confident connections without the additional hassle.

smart sealing elements
All Apollo® SmartPress products come equipped with a patented ‘smart’ sealing element. The special geometry creates both a grip function to prevent fitting from falling off pipe, as well as immediate tactile detection of the sealing element upon pipe insertion. In addition to this, the sealing element incorporates built-in Leak Before Press® technology and is manufactured and assembled within a silicone free production process.

applications

potable water installations

Apollo® SmartPress with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S).

sealing elements:	HNBR (black with yellow marking)
Visu-Control® foil:	yellow
operating temperature:	-22°F to 212°F
max. temperature (short term):	230°F
max. operating pressure*:	300 psi (20.7 bar) for 5S 500 psi (34.5 bar) for 10S

sealing elements:	EPDM (black)
Visu-Control® foil:	green
operating temperature:	-31°F to 275°F
max. temperature (short term):	302°F
max. operating pressure*:	300 psi (20.7 bar) for 5S 500 psi (34.5 bar) for 10S

Apollo® SmartPress EPDM and HNBR products certified to NSF/ANS/CAN 61 & 372. The content of water-soluble chloride ions may not exceed 250 mg/l for potable water installations.

heating installations

Apollo® SmartPress with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S).

sealing elements:	HNBR (black with yellow marking)
Visu-Control® foil:	yellow
operating temperature:	-22°F to 212°F
max. temperature (short term):	230°F
max. operating pressure*:	300 psi (20.7 bar) for 5S 500 psi (34.5 bar) for 10S

sealing elements:	EPDM (black)
Visu-Control® foil:	green
operating temperature:	-31°F to 275°F
max. temperature (short term):	302°F
max. operating pressure*:	300 psi (20.7 bar) for 5S 500 psi (34.5 bar) for 10S

*Apollo® SmartPress SM500 FullFlow ball valves are rated to a maximum operating pressure of 300 psi regardless of pipe schedule (schedule 5S/10S) or sealing element selection.

cooling water installations

Apollo® SmartPress with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S).

sealing elements:	HNBR (black with yellow marking)
Visu-Control® foil:	yellow
operating temperature:	-22°F to 212°F
max. temperature (short term):	230°F
max. operating pressure*:	300 psi (20.7 bar) for 5S 500 psi (34.5 bar) for 10S

sealing elements:	EPDM (black)
Visu-Control® foil:	green
operating temperature:	-31°F to 275°F
max. temperature (short term):	302°F
max. operating pressure*:	300 psi (20.7 bar) for 5S 500 psi (34.5 bar) for 10S

compressed air installations

Apollo® SmartPress with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S) and can be used for compressed air under the following conditions:

water content:	max. 880 mg/m³, class 3, ISO8573 part 1
oil content:	max. 25 mg/m³, class 5, ISO8573 part 1

class	water content [mg/m³]	oil content [mg/m³]	sealing element
1	3	0.01	all
2	120	0.1	all
3	880	1	all
4	6,000	5	all
5	7,800	25	all
6	9,400	>25	HNBR or FKM

ISO classification for compressed air

EPDM sealing elements may only be used for synthetic oil or dry compressed air (not exceeding 25 mg/m³).

sealing elements:	HNBR (black with yellow marking)
Visu-Control® foil:	yellow
operating temperature:	-22°F to 225°F
max. temperature (short term):	230°F
max. operating pressure:	232 psi (16 bar)

sealing elements:	EPDM (black)
Visu-Control® foil:	green
operating temperature:	-31°F to 275°F
max. temperature (short term):	302°F
max. operating pressure:	232 psi (16 bar)

sealing elements:	FKM (blue)
Visu-Control® foil:	blue
operating temperature*:	-4°F to 392°F
max. temperature (short term):	446°F
max. operating pressure:	232 psi (16 bar)

Compressed air piping systems must be properly tested as soon as the installation work is finished. The system designer and installation contractor must ensure safe methods are selected for testing the system. The methods must comply with all current health and safety regulations.

They may include testing compressed air lines with fluids or compressed air at a specific pressure, or a combination of both. We recommend that the maximum working pressure of the product not be exceeded under any circumstances during this process.

Since 30 May 2002, most pressure equipment and installations on the market have had to comply with the Pressure Equipment Directive (PED) 1999. The Directive concerns items such as vessels, pressurized storage containers, heat exchangers, steam generators, boilers, industrial piping, safety equipment and pressure accessories.

Please note that Article 3(3) of the PED applies to Apollo® SmartPress. This means that only sound design and safe instructions for use and maintenance are required.

solar installations

Apollo® SmartPress with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S) can be installed in high temperature applications for both closed-looped systems and systems with return.

sealing elements:	FKM (blue)
Visu-Control® foil:	blue
operating temperature*:	-4°F to 392°F
max. temperature (short term):	446°F
max. operating pressure**:	300 psi (20.7 bar) for 5S 500 psi (34.5 bar) for 10S

sprinkler installations

Apollo® SmartPress fittings with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S); may be used in wet and dry sprinkler installations in accordance with UL and FM.

sealing elements:	HNBR (black with yellow marking)
Visu-Control® foil:	yellow
operating temperature:	-22°F to 225°F
max. temperature (short term):	230°F
max. operating pressure:	175 psi (12.1 bar) for 10S (UL 213) 300 psi (20.7 bar) for 10S (FM)

sealing elements:	EPDM (black)
Visu-Control® foil:	green
operating temperature:	-31°F to 225°F
max. temperature (short term):	302°F
max. operating pressure:	175 psi (12.1 bar) for 10S (UL 213) 300 psi (20.7 bar) for 10S (FM)

vacuum installations

Apollo® SmartPress with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S).

Apollo® SmartPress is suitable for vacuum applications with a relative pressure of -12.328 psi (-0.85 bar).

steam installations

Apollo® SmartPress with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S).

sealing elements:	EPDM (black)
Visu-Control® foil:	green
operating temperature:	-31°F to 230°F
max. temperature (short term):	248°F
max. operating pressure:	20.3 psi (1.4 bar)

For steam containing additives, it may be necessary to use alternative sealing element compounds. Please contact Aalberts integrated piping systems for additional assistance.

*Apollo® SmartPress SM500F FullFlow ball valves operating temperature of -4°F to 275°F (short term max of 302°F).
**Apollo® SmartPress SM500 FullFlow ball valves are rated to a maximum operating pressure of 300 psi regardless of pipe schedule (schedule 5S/10S) or sealing element selection..

industrial installations

Apollo® SmartPress with stainless steel pipes that meet ASTM A312 (schedule 5S or 10S). The maximum operating pressure can be higher, depending on the used safety factor in your installation.

sealing elements:	HNBR (black with yellow marking)
Visu-Control® foil:	yellow
operating temperature:	-22°F to 212°F
max. temperature (short term):	230°F
max. operating pressure*:	300 psi (20.7 bar) for 5S
	500 psi (34.5 bar) for 10S

sealing elements:	EPDM (black)
Visu-Control® foil:	green
operating temperature:	-31°F to 275°F
max. temperature (short term):	302°F
max. operating pressure*:	300 psi (20.7 bar) for 5S
	500 psi (34.5 bar) for 10S

sealing elements:	FKM (blue)
Visu-Control® foil:	blue
operating temperature**:	-4°F to 392°F
max. temperature (short term):	446°F
max. operating pressure*:	300 psi (20.7 bar) for 5S
	500 psi (34.5 bar) for 10S

It may be possible to have higher working pressures depending on the different safety factors that may apply in industrial applications. For pressures higher than 500 psi (34.5 bar) please contact Aalberts integrated piping systems.

For applications other than water, such as oil, fuel and hydrocarbons, it may be necessary to use altenrative sealing element compounds. Please contact Aalberts integrated piping systems for additional assistance.

*Apollo® SmartPress SM500 FullFlow ball valves are rated to a maximum operating pressure of 300 psi regardless of pipe schedule (schedule 5S/10S) or sealing element selection.
**Apollo® SmartPress SM500F FullFlow ball valves operating temperature of -4°F to 275°F (short term max of 302°F).

installation guidelines

When installing Apollo® SmartPress, always make sure to take proper care in using protective gear on the building site. Safety shoes, a safety helmet and safety glasses should be worn at the minimum when installing Apollo® SmartPress.

1. transport and storage

When transporting and storing Apollo® SmartPress fittings or valves, damage and contamination must be avoided. The optimal storage temperature is between 50°F and 77°F. The products should be stored in their original packaging in a dry place (max. humidity 65%). It is advised to not remove the product from the packaging before installing.

2. cutting the pipe to length

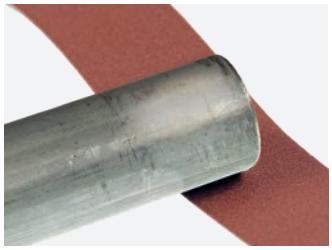
After measuring, the pipes can be cut to length using a pipe cutter designed for stainless steel, a fine-toothed handsaw or an electrical mechanical saw suitable for the pipe material. The pipe must always be cut completely through. Do not partially cut the pipe and break it off, as this could cause leakage. When cutting already installed pipes, always take into account a minimum distance to welds and bends of 3 x d (minimum of 3.94" or 100 mm).

Note: Do not use oil-cooled saws, grinding wheels or flame cutters.

3. deburring the pipe end

Pipe ends must be thoroughly deburred on the inside and the outside once they have been cut to length. This is necessary to avoid any damage to the sealing element when inserting the pipe into the press fitting. A file or hand deburrer or an electrical pipe deburrer suitable for the material may be used to deburr both the inside and outside of the pipe. Any burrs on the pipe should be removed.

4. cleaning the outside of the pipe



Always ensure that any dirt or particles are removed from the surface of the pipe. This can be done with a stainless steel wire brush or fine grit sand paper. The surface of the pipe must be smooth, free of indentations, pits and deformations and must be free of oil and grease.

5. marking insertion depth

The required insertion depth (table in step 7 of installation guidelines) must be marked on the pipe in order to guarantee a safe and proper joint. The fittings with pipe ends already have a pre-marked insertion depth, thereby rendering any marking unnecessary. The marking on the pipe must remain visible (close to the union) after the connection is pressed to identify any movement before or after pressing.

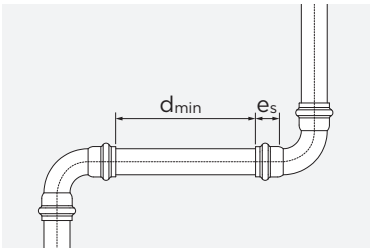
6. check the fitting

Before connecting the pipe into the fitting, check if the fitting is thecorrect one for the intended use and the required sealing element is present.

7. fitting the pipe end into the fitting

Insert the pipe end carefully into the fitting while turning and pushing it in the direction of the axis until it comes to a stroke stop in the socket. The patented sealing element design also functions as a sealing element detection solution. This means that there will always be some friction between the sealing element and pipe during insertion. The insertion depth marking must remain visible. In the case of fittings without a stop, the fittings should be inserted at least as far as the marked insertion depth. Rough and careless insertion may result in damage to the sealing element and is therefore not permitted.

If assembly is difficult because of the permitted tolerances in size, a lubricant, such as water or soap, may be used. Under no circumstances may oils, fats or grease be used as lubricants.



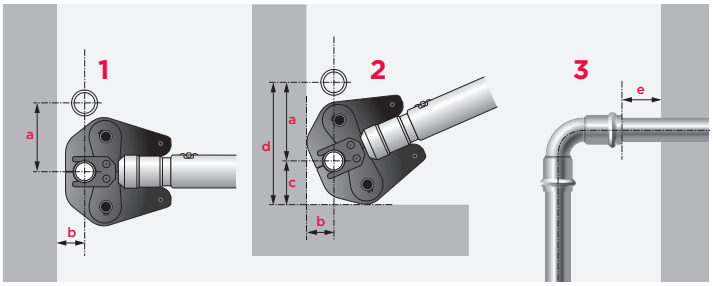
To optimise installation time, you may assemble a number of connections first and then press the various pipe connections, one after the other.

Marking the insertion depth (e_S) makes it possible to check whether the pipe was pressed out of the socket during the pressing process. Prior to installation of the various connections, it is important to check the minimum desired clearances (see table).

dimension	insertion depth e_S	minimum distance d_{min}	minimum pipe length $2e_S + d_{min}$
½"	1⅛" (29 mm)	0.98" (25 mm)	3.27" (83 mm)
¾"	1⅛" (29 mm)	0.98" (25 mm)	3.27" (83 mm)
1"	1¼" (32 mm)	1.65" (42 mm)	4.17" (106 mm)
1½"	1⁷⁄₁₆" (37 mm)	0.75" (19 mm)	3.66" (93 mm)
2"	1¹¹⁄₁₆" (43 mm)	0.79" (20 mm)	4.17" (106 mm)

insertion depth and minimum distances between joints when using Milwaukee™ and Novopress press tools

The table gives the minimum required working space so that the fittings/valves can be pressed correctly using Milwaukee™ and Novopress press tools. These distances relate to the general installation configurations as schematically depicted in figures 1, 2 and 3 below. Consult the relevant user manual when using another type of press tool.



dimension	figure 1		figure 2			figure 3
	a	b	a	b	c	e
½"	4.02" (102 mm)	1.73" (44 mm)	5.75" (146 mm)	2.24" (57 mm)	2.76" (70 mm)	1.57" (40 mm)
¾"	4.02" (102 mm)	1.73" (44 mm)	6.26" (159 mm)	2.52" (64mm)	2.76" (70 mm)	1.57" (40 mm)
1"	4.02" (102 mm)	1.73" (44 mm)	7.00" (178 mm)	3.00" (76 mm)	2.76" (70 mm)	1.57" (40 mm)
1½"	5.00" (127 mm)	4.76" (121 mm)	6.26" (159 mm)	4.76" (121 mm)	5.00" (127 mm)	1.57" (40 mm)
2"	5.24" (133 mm)	4.76" (121 mm)	6.73" (171 mm)	4.76" (121 mm)	5.24" (133 mm)	1.57" (40 mm)

required installation space for Milwaukee™ and Novopress press tools

8. pressing

Before pressing, the press jaws and rings must be checked for dirt, which should be removed if present. To make a correctly pressed connection, the press tool should enclose the collar of the fitting. Once the pressing cycle starts, it should be completed before releasing. Under no circumstances interrupt the process. Please consult our online tool selector for the most recent overview of approved machines, press jaws and rings: www.aalberts-ips.eu/presstool.

it is not permitted to press a connection more than once.

The pressing process can cause deflection (angular displacement). This behavior can be corrected by adapting the position of the press jaw/ring on each connection. As an example, you could choose to place the machine on the left side first of all; then, for the next connection, the machine would be placed on the right side. The deflection of the joint is not something that can be prevented, but it can be minimized using the above method.

9. Visu-Control®

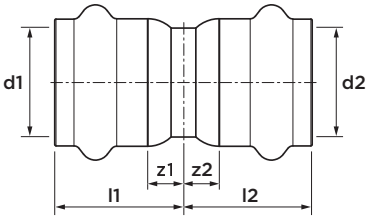
As a visual indication that the connection has been pressed, the Visu-Control® foil should be damaged. Remove the foil as an indication that the connection has been pressed and checked.

Apollo® SmartPress

HNBR fittings & valves

500H coupling HNBR

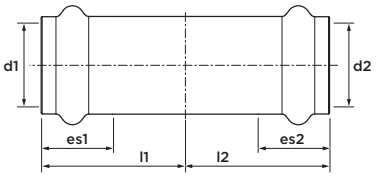
(2 x press)



size	item no.	l1/l2	z1/z2	weight [lb]
½"	123 456 811	1.39	0.37	0.190
¾"	123 456 812	1.39	0.37	0.231
1"	123 456 813	1.56	0.37	0.425
1½"	123 456 814	1.74	0.36	0.683
2"	123 456 815	1.98	0.37	0.981

501H coupling - no stop HNBR

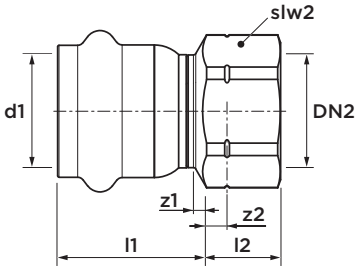
(2 x press)



size	item no.	l1/l2	es1/es2	weight [lb]
½"	123 456 816	1.89	1.06	0.256
¾"	123 456 817	1.96	1.06	0.320
1"	123 456 818	2.28	1.18	0.608
1½"	123 456 819	2.67	1.38	1.008
2"	123 456 820	3.09	1.61	1.464

503H adapter - female HNBR

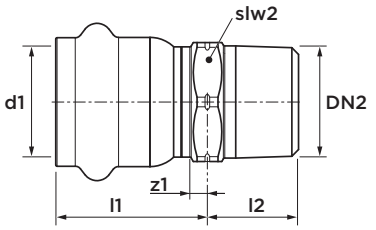
(press x FPT)



size	item no.	l1	l2	z1	z2	slw2	weight [lb]
½" x FPT ½"	123 456 830	1.33	0.94	0.27	0.63	1.10	0.240
¾" x FPT ½"	123 456 831	1.33	0.94	0.27	0.63	1.10	0.260
¾" x FPT ¾"	123 456 832	1.33	0.98	0.27	0.63	1.26	0.260
1" x FPT ½"	123 456 833	1.50	0.87	0.31	0.55	1.42	0.474
1" x FPT ¾"	123 456 834	1.50	0.87	0.31	0.55	1.42	0.428
1" x FPT 1"	123 456 835	1.50	1.10	0.31	0.71	1.61	0.520
1½" x FPT 1"	123 456 836	1.68	1.02	0.30	0.63	1.97	0.897
1½" x FPT ¼"	123 456 837	1.68	1.02	0.30	0.59	1.97	0.723
1½" x FPT 1½"	123 456 838	1.68	1.14	0.30	0.75	2.36	1.001
2" x FPT 1¼"	123 456 839	1.92	1.18	0.31	0.75	2.56	1.512
2" x FPT 1½"	123 456 840	1.92	1.18	0.31	0.75	2.56	1.356
2"x FPT 2"	123 456 841	1.92	1.38	0.31	0.94	2.76	1.338

504H adapter - male HNBR

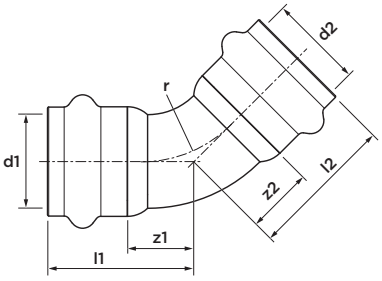
(press x MPT)



size	item no.	l1	l2	z1	slw2	weight [lb]
½" x MPT ½"	123 456 821	1.33	1.22	0.27	0.87	0.187
¾" x MPT ½"	123 456 822	1.33	1.26	0.27	1.10	0.236
¾" x MPT ¾"	123 456 823	1.33	1.26	0.27	1.26	0.289
¾" x MPT 1"	123 456 824	1.33	1.42	0.27	1.42	0.379
1" x MPT ¾"	123 456 825	1.50	1.26	0.31	1.42	0.410
1" x MPT 1"	123 456 826	1.50	1.42	0.31	1.42	0.454
1½" x MPT ¾"	123 456 827	1.68	1.50	0.30	1.97	0.697
1½" x MPT 1½"	123 456 828	1.68	1.65	0.30	2.17	0.966
2" x MPT 2"	123 456 829	1.92	1.69	0.31	2.56	1.217

506H 45° elbow HNBR

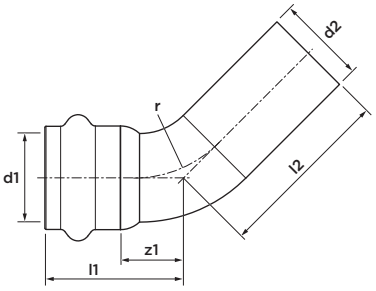
(2 x press)



size	item no.	l1/l2	z1/z2	r	weight [lb]
½"	123 456 852	1.64	0.62	1.02	0.214
¾"	123 456 853	1.74	0.68	1.26	0.276
1"	123 456 854	2.06	0.88	1.57	0.534
1½"	123 456 855	2.53	1.15	2.28	0.924
2"	123 456 856	3.00	1.39	2.83	1.373

506-2H 45° street elbow HNBR

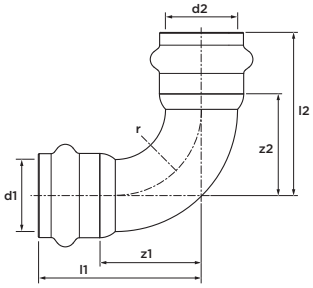
(press x street Ø)



size	item no.	l1	l2	z1	r	weight [lb]
½"	123 456 857	1.64	2.22	0.62	1.02	0.207
¾"	123 456 858	1.74	2.26	0.68	1.26	0.291
1"	123 456 859	2.06	2.62	0.88	1.57	0.542
1½"	123 456 860	2.53	3.00	1.15	2.28	0.968
2"	123 456 861	3.00	3.58	1.39	2.83	1.459

507H 90° elbow HNBR

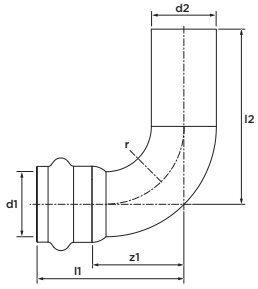
(2 x press)



size	item no.	l1/l2	z1/z2	r	weight [lb]
½"	123 456 842	2.24	1.18	1.02	0.256
¾"	123 456 843	2.48	1.41	1.26	0.342
1"	123 456 844	2.98	1.80	1.57	0.664
1½"	123 456 845	3.87	2.09	2.28	1.215
2"	123 456 846	4.66	3.05	2.83	1.817

507-2H 90° street elbow HNBR

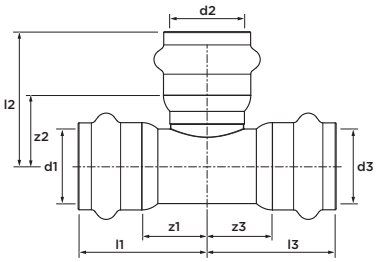
(press x street Ø)



size	item no.	l1	l2	z1	r	weight [lb]
½"	123 456 847	2.24	2.82	1.18	1.02	0.265
¾"	123 456 848	2.48	3.00	1.41	1.26	0.357
1"	123 456 849	2.98	3.54	1.80	1.57	0.686
1½"	123 456 850	3.87	4.38	2.09	2.28	1.259
2"	123 456 851	4.66	5.24	3.05	2.83	1.898

511H tee HNBR

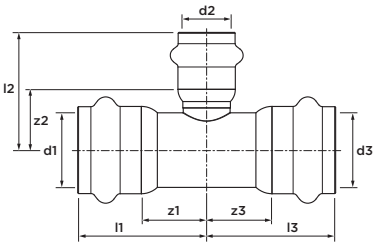
(3 x press)



size	item no.	l1/l3	l2	z1/z3	z2	weight [lb]
½"	123 456 862	1.71	1.93	0.65	0.87	0.313
¾"	123 456 863	2.01	1.93	0.94	0.87	0.419
1"	123 456 864	2.27	2.24	1.09	1.06	0.780
1½"	123 456 865	2.72	2.72	1.35	1.34	1.301
2"	123 456 866	3.21	3.35	1.59	1.73	1.905

511RH tee - reducing HNBR

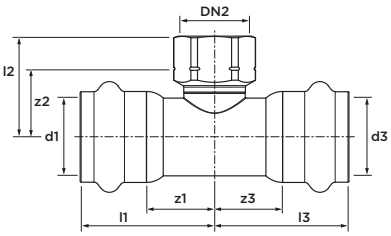
(3 x press)



size	item no.	l1/l3	l2	z1/z3	z2	weight [lb]
¾" x ¾" x ½"	123 456 867	2.01	2.01	0.94	0.94	0.401
1" x 1" x ½"	123 456 868	2.27	2.17	1.09	1.10	0.672
1" x 1" x ¾"	123 456 869	2.27	2.09	1.09	1.02	0.688
1½" x 1½" x ½"	123 456 870	2.72	2.44	1.35	1.38	1.091
1½" x 1½" x ¾"	123 456 871	2.72	2.36	1.35	1.30	1.107
1½" x 1½" x 1"	123 456 872	2.72	2.52	1.35	1.34	1.197
2" x 2" x ½"	123 456 873	3.21	2.68	1.59	1.61	1.574
2" x 2" x ¾"	123 456 874	3.21	2.60	1.59	1.54	1.587
2" x 2" x 1"	123 456 875	3.21	2.76	1.59	1.57	1.678
2" x 2" x 1½"	123 456 876	3.21	2.99	1.59	1.61	1.781

5712H tee - female HNBR

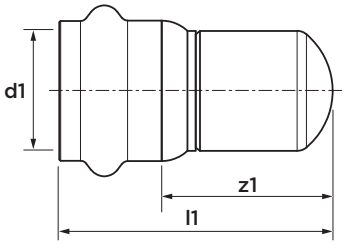
(press x press x FPT)



size	item no.	l1/l3	l2	z1/z3	z2	slw2	weight [lb]
½" x ½" x FPT ½"	123 456 877	1.71	1.46	0.65	1.14	1.10	0.370
¾" x ¾" x FPT ½"	123 456 878	2.01	1.57	0.94	1.26	1.10	0.459
¾" x ¾" x FPT ¾"	123 456 879	2.01	1.54	0.94	1.22	1.26	0.454
1" x 1" x FPT ½"	123 456 880	2.27	1.69	1.09	1.38	1.10	0.730
1" x 1" x FPT ¾"	123 456 881	2.27	1.69	1.09	1.38	1.26	0.728
1" x 1" x FPT 1"	123 456 882	2.27	2.85	1.09	1.34	1.61	0.888
1½" x 1½" x FPT ½"	123 456 883	2.72	2.01	1.35	1.69	1.10	1.149
1½" x 1½" x FPT ¾"	123 456 884	2.72	2.01	1.35	1.65	1.26	1.144
1½" x 1½" x FPT 1"	123 456 885	2.72	2.13	1.35	1.73	1.61	1.305
2" x 2" x FPT ½"	123 456 886	3.21	2.24	1.59	1.93	1.10	1.631
2" x 2" x FPT ¾"	123 456 887	3.21	2.24	1.59	1.89	1.26	1.627
2" x 2" x FPT 1"	123 456 888	3.21	2.36	1.59	1.97	1.61	1.788

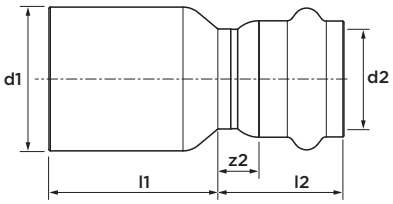
517H cap HNBR

(1 x press)



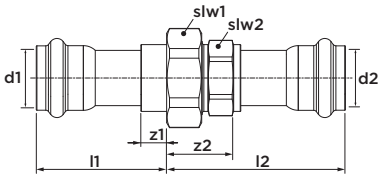
size	item no.	l1	z1	weight [lb]
½"	123 456 919	2.33	0.87	0.209
¾"	123 456 920	2.33	0.87	0.265
1"	123 456 921	2.99	1.81	0.452
1½"	123 456 922	3.18	1.80	0.705
2"	123 456 923	3.43	1.81	0.992

518H fitting reducer HNBR
(street Ø x press)



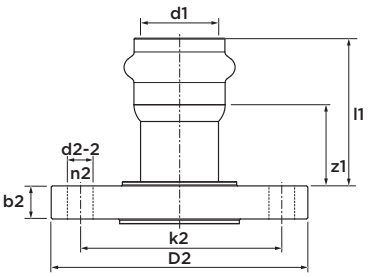
size	item no.	l1	l2	z2	weight [lb]
Ø ¾" x ½"	123 456 889	1.52	1.65	0.46	0.216
Ø 1" x ½"	123 456 890	1.54	1.97	0.48	0.326
Ø 1" x ¾"	123 456 891	1.54	1.85	0.48	0.337
Ø 1½" x ½"	123 456 892	1.50	2.52	0.43	0.507
Ø 1½" x ¾"	123 456 893	1.50	2.40	0.44	0.518
Ø 1½" x 1"	123 456 894	1.65	2.24	0.47	0.597
Ø 2" x ½"	123 456 895	1.50	2.99	0.44	0.701
Ø 2" x ¾"	123 456 896	1.51	2.87	0.44	0.712
Ø 2" x 1"	123 456 897	1.65	2.72	0.47	0.791
Ø 2" x 1 ½"	123 456 898	1.84	2.36	0.46	0.860

5733H union HNBR
(2 x press)



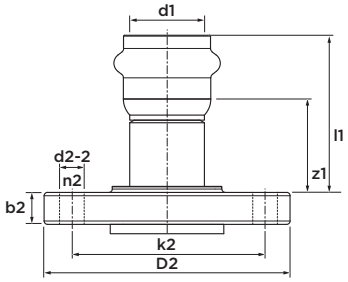
size	item no.	l1	l2	z1	z2	slw1	slw2	weight [lb]
½"	123 456 909	3.16	3.31	2.09	2.25	1.61	1.10	3.086
¾"	123 456 910	3.37	3.45	2.31	2.39	1.81	1.42	3.748
1"	123 456 911	3.56	3.80	2.38	2.61	2.17	1.61	4.409
1½"	123 456 912	3.91	4.11	2.53	2.73	2.95	2.36	3.483
2"	123 456 913	4.02	4.10	2.41	2.48	3.66	2.91	5.071

5771H flange adapter - class 150 HNBR
(press x flange)



size	item no.	l1	z1	b2	d2-2	k2	D2	n2	weight [lb]
½"	123 456 899	2.81	1.75	0.43	0.63	2.38	3.54	4	1.190
¾"	123 456 900	2.87	1.81	0.51	0.63	3.25	3.94	4	1.664
1"	123 456 901	3.13	1.95	0.55	0.63	3.13	4.33	4	2.363
1½"	123 456 902	3.41	2.04	0.67	0.63	3.88	4.92	4	3.638
2"	123 456 903	3.42	1.81	0.75	0.75	4.74	5.91	4	5.490

5772H van stone flange adapter - class 150 HNBR
(press x flange)



size	item no.	l1	z1	b2	d2-2	k2	D2	n2	weight [lb]
½"	123 456 904	3.33	2.27	0.43	0.63	2.38	3.54	4	1.371
¾"	123 456 905	3.33	2.27	0.51	0.63	3.25	3.94	4	1.742
1"	123 456 906	3.50	2.31	0.55	0.63	3.13	4.33	4	2.623
1½"	123 456 907	3.68	2.30	0.67	0.63	3.88	4.92	4	4.211
2"	123 456 908	4.42	2.81	0.75	0.75	4.74	5.91	4	7.412

599H sealing element HNBR

(lubricant free)

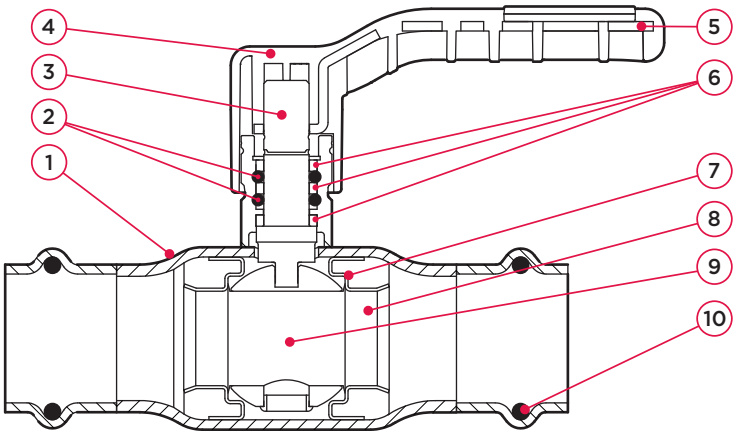
size	item no.	weight [lb]
½"	123 457 150	0.002
¾"	123 457 151	0.004
1"	123 457 152	0.004
1½"	123 457 153	0.009
2"	123 457 154	0.011

SM500H FullFlow ball valve HNBR

(2 x press)

specifications

- stainless steel AISI 316
- 100% full port
- compact, one piece design
- blow-out proof stem design
- max. pressure 300 psi (20.7 bar)
- operating temperature -22°F to 212°F (230°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- double o-ring HNBR stem seal
- unique valve identification
- 5-year limited warranty

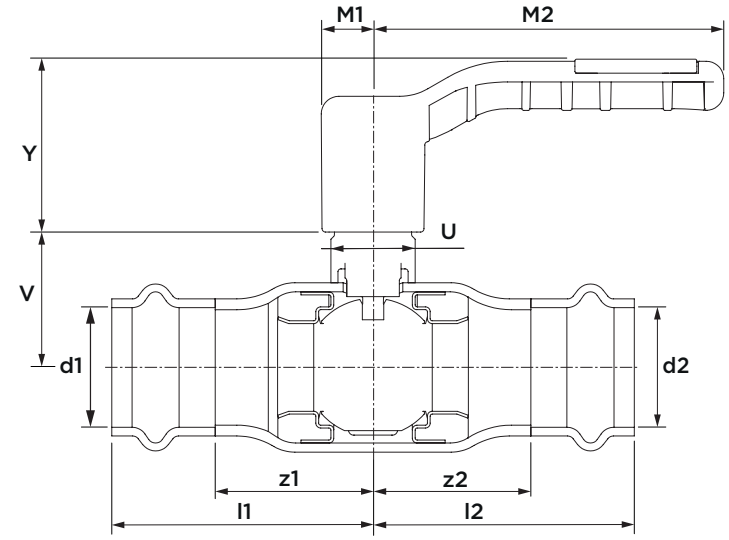


no.	component	material
1	body	stainless steel (AISI 316L/1.4404)
2	stem seal	HNBR
3	stem	stainless steel (AISI 316L/1.4404)
4	handle	fiberglass reinforced composite (PA66)
5	handle reinforcement	stainless steel (AISI 316L/1.4404)
6	stem bearing	PTFE
7	seat	PTFE
8	sprung support ring	stainless steel (AISI 316L/1.4404)
9	ball	stainless steel (AISI 316L/1.4404)
10	sealing element	HNBR

maximum pressure

operating pressure	test pressure shell	test pressure seat
300 psi (20.7 bar)	451 (31.1 bar)	331 psi (22.8 bar)

pressure equipment directive category	
all sizes	SEP



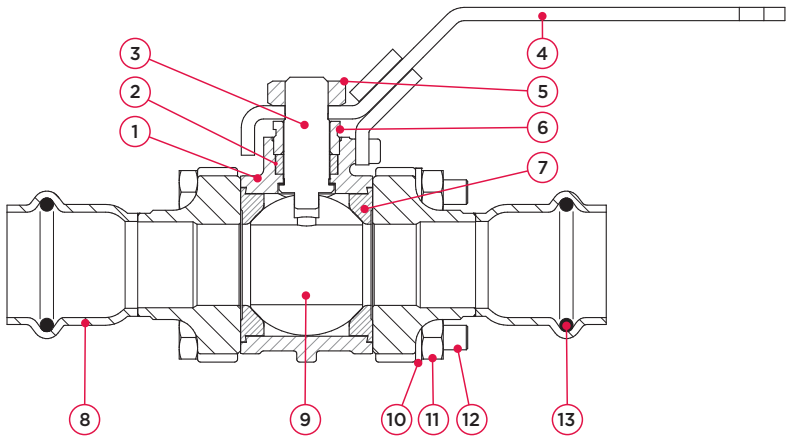
certifications & listings
NSF/ANSI/CAN 61
NSF/ANSI/CAN 372

compliant with
ASTM A312
ASTM A554
ASME B31.1, 31.3, 31.9
IAPMO/ANSI/CAN Z1117 (press ends)

size		item no.	weight [lb]	Cv [gpm]	l1/l2	z1/z2	M1	M2	V	Y	U
½"	(DN10)	123 457 171	0.66	24.4	2.24	1.20	0.47	2.95	1.14	1.69	0.71
¾"	(DN20)	123 457 172	0.90	42.9	2.51	1.47	0.47	2.95	1.26	1.69	0.71
1"	(DN25)	123 457 173	1.69	75.7	2.93	1.77	0.59	3.94	1.54	1.97	0.71
1½"	(DN40)	123 457 174	3.77	163.6	4.06	2.72	0.67	6.50	1.93	2.01	1.10
2"	(DN50)	123 457 175	5.84	356.5	4.69	3.11	0.67	6.50	2.24	2.01	1.10

86VH 3-piece ball valve HNBR

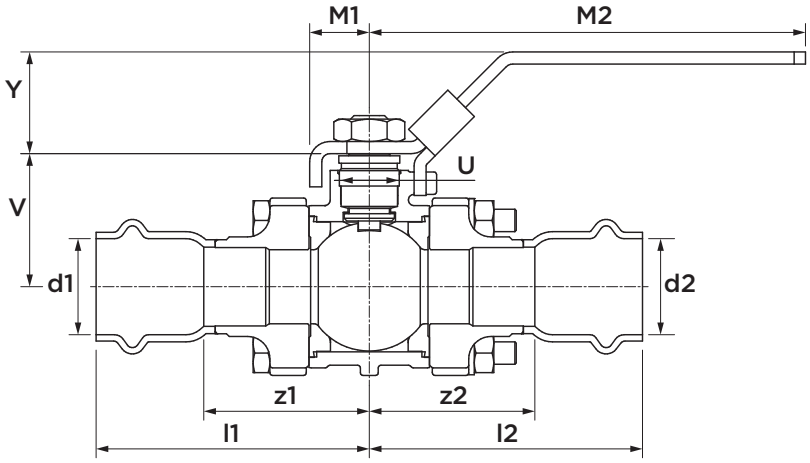
(2 x press)



specifications

- stainless steel ASTM A351-CF8M
- 100% full port
- easy to maintain, 3 piece design
- blow-out proof stem design
- max. pressure 500 psi (34.5 bar)
- operating temperature -22°F to 212°F (230°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- MPFTE stem packing
- ISO 5211 actuator mounting pad
- standardized locking handle (latch-lock lever)
- 5-year limited warranty

no.	component	material
1	body	stainless steel (ASTM A351-CF8M)
2	stem packing	MPTFE
3	stem	stainless steel (ASTM A276-316)
4	handle	stainless steel (AISI 304/1.4301), vinyl coated
5	handle nut	stainless steel (AISI 304/1.4301)
6	packing gland nut	stainless steel (ASTM A276-316)
7	seat	RPTFE
8	press end cap	stainless steel (ASTM A351-CF3M, 316L)
9	ball	stainless steel (ASTM A276-316)
10	lockwasher	stainless steel (AISI 304/1.4301)
11	hex nut	stainless steel (18-8)
12	body bolt	stainless steel (18-8)
13	sealing element	HNBR



maximum pressure		
operating pressure	**test pressure shell**	**test pressure seat**
500 psi (34.5 bar)	750 psi (51.7 bar)	550 psi (37.9 bar)

pressure equipment directive category	
all sizes	SEP

certifications & listings

- IAPMO/ANSI Z1157*
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

compliant with

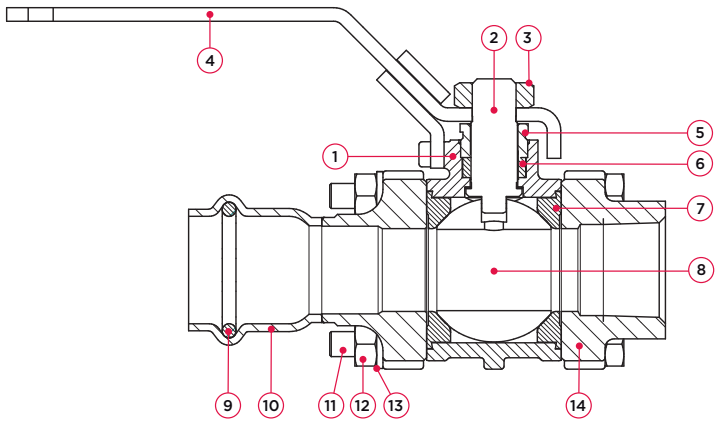
- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- Uniform Plumbing Code (UPC®)
- International Plumbing Code (IPC®)
- National Plumbing Code of Canada (NPCC)
- MSS SP-110
- IAPMO/ANSI/CAN Z1117 (press ends)

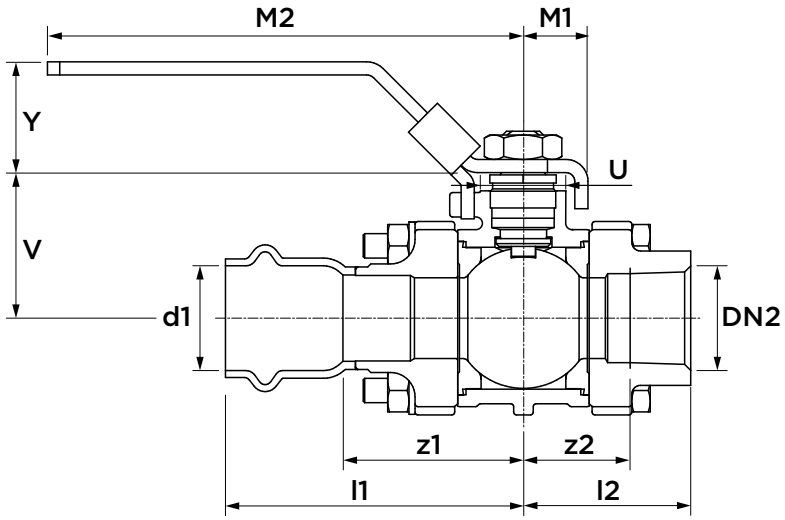
size		item no.	weight [lb]	Cv [gpm]	l1/l2	z1/z2	M1	M2	V	Y	U
½"	(DN10)	123 457 461	1.61	25.4	2.74	1.67	0.67	4.90	1.30	1.17	0.87
¾"	(DN20)	123 457 462	2.22	50.9	3.05	2.00	0.67	4.90	1.49	1.17	0.87
1"	(DN25)	123 457 463	3.42	68.2	3.42	2.22	0.94	6.15	1.95	1.04	1.31
1½"	(DN40)	123 457 464	7.55	169.9	4.28	2.88	1.25	7.53	2.45	1.53	1.37
2"	(DN50)	123 457 465	12.97	374.6	4.94	3.31	1.25	7.53	2.79	1.53	1.37

* IAPMO/ANSI Z1157 applicable to ½"- 1" Apollo® SmartPress 86V 3-piece valve item numbers listed above; for sizes 1½"- 2" requiring IAPMO/ANSI Z1157 approval, please contact Aalberts integrated piping systems technical support team for alternatively approved part numbers (300 psi max. pressure rating, PTFE seat).

86VHFP 3-piece ball valve HNBR

(press x FPT)





specifications

- stainless steel ASTM A351-CF8M
- 100% full port
- easy to maintain, 3 piece design
- blow-out proof stem design
- max. pressure 500 psi (34.5 bar)
- operating temperature -22°F to 212°F (230°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- MPFTE stem packing
- ISO 5211 actuator mounting pad
- standardized locking handle (latch-lock lever)
- 5-year limited warranty

no.	component	material
1	body	ASTM A354-CF8M
2	stem	stainless steel (ASTM A276-316)
3	handle nut	stainless steel (AISI 304/1.4301)
4	handle	stainless steel (AISI 304/1.4301), vinyl coated
5	packing gland nut	stainless steel (ASTM A276-316)
6	packing	MPTFE
7	seat	RPTFE
8	ball	stainless steel (ASTM A276-316)
9	sealing element	HNBR
10	press end cap	stainless steel (ASTM A351-CF3M, 316L)
11	body bolt	stainless steel (18-8)
12	hex nut	stainless steel (18-8)
13	lockwasher	stainless steel (AISI 304/1.4301)
14	FPT end cap	stainless steel (ASTM A351-CF3M)

maximum pressure

operating pressure	test pressure shell	test pressure seat
500 psi (34.5 bar)	750 psi (51.7 bar)	550 psi (37.9 bar)

pressure equipment directive category	
all sizes	SEP

certifications & listings

- IAPMO/ANSI Z1157*
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

compliant with

- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- Uniform Plumbing Code (UPC®)
- International Plumbing Code (IPC®)
- National Plumbing Code of Canada (NPCC)
- MSS SP-110
- IAPMO/ANSI/CAN Z1117 (press ends)

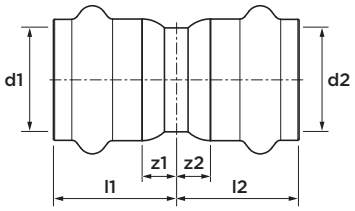
size		item no.	weight [lb]	Cv [gpm]	l1	l2	z1	z2	M1	M2	V	Y	U
½" x FPT½"	(DN10)	123 457 481	1.54	25.4	1.42	2.74	1.67	0.88	0.67	4.90	1.30	1.17	0.87
¾" x FPT¾"	(DN20)	123 4574 82	2.16	50.9	1.71	3.05	2.00	1.16	0.67	4.90	1.49	1.17	0.87
1" x FPT1"	(DN25)	123 457 483	3.27	68.2	1.93	3.42	2.22	1.27	0.94	6.15	1.95	1.04	1.31
1½" x FPT1½"	(DN40)	123 457 484	7.39	169.9	2.59	4.28	2.88	1.91	1.25	7.53	2.45	1.53	1.37
2" x FPT2"	(DN50)	123 457 485	12.74	374.6	3.02	4.94	3.31	2.32	1.25	7.53	2.79	1.53	1.37

* IAPMO/ANSI Z1157 applicable to ½"- 1" Apollo® SmartPress 86V 3-piece valve item numbers listed above; for sizes 1½"- 2" requiring IAPMO/ANSI Z1157 approval, please contact Aalberts integrated piping systems technical support team for alternatively approved part numbers (300 psi max. pressure rating, PTFE seat).

Apollo® SmartPress EPDM fittings & valves

500E coupling EPDM

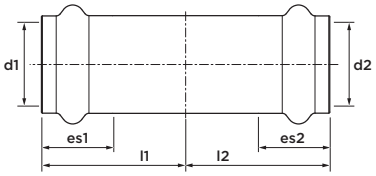
(2 x press)



size	item no.	l1/l2	z1/z2	weight [lb]
½"	123 456 924	1.39	0.37	0.190
¾"	123 456 925	1.39	0.37	0.231
1"	123 456 926	1.56	0.37	0.425
1½"	123 456 927	1.74	0.36	0.683
2"	123 456 928	1.98	0.37	0.981

501E coupling - no stop EPDM

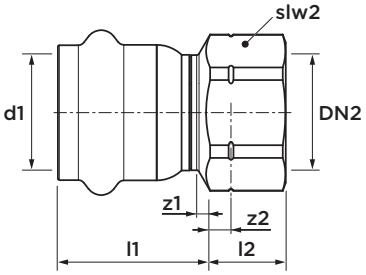
(2 x press)



size	item no.	l1/l2	es1/es2	weight [lb]
½"	123 456 929	1.89	1.06	0.256
¾"	123 456 930	1.96	1.06	0.320
1"	123 456 931	2.28	1.18	0.608
1½"	123 456 932	2.67	1.38	1.008
2"	123 456 933	3.09	1.61	1.464

503E adapter - female EPDM

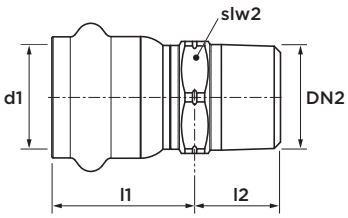
(press x FPT)



size	item no.	l1	l2	z1	z2	slw2	weight [lb]
½" x FPT ½"	123 456 943	1.33	0.94	0.27	0.63	1.10	0.240
¾" x FPT ½"	123 456 944	1.33	0.94	0.27	0.63	1.10	0.260
¾" x FPT ¾"	123 456 945	1.33	0.98	0.27	0.63	1.26	0.260
1" x FPT ½"	123 456 946	1.50	0.87	0.31	0.55	1.42	0.474
1" x FPT ¾"	123 456 947	1.50	0.87	0.31	0.55	1.42	0.428
1" x FPT 1"	123 456 948	1.50	1.10	0.31	0.71	1.61	0.520
1½" x FPT 1"	123 456 949	1.68	1.02	0.30	0.63	1.97	0.897
1½" x FPT ¼"	123 456 950	1.68	1.02	0.30	0.59	1.97	0.723
1½" x FPT 1½"	123 456 951	1.68	1.14	0.30	0.75	2.36	1.001
2" x FPT 1¼"	123 456 952	1.92	1.18	0.31	0.75	2.56	1.512
2" x FPT 1½"	123 456 953	1.92	1.18	0.31	0.75	2.56	1.356
2"x FPT 2"	123 456 954	1.92	1.38	0.31	0.94	2.76	1.338

504E adapter - male EPDM

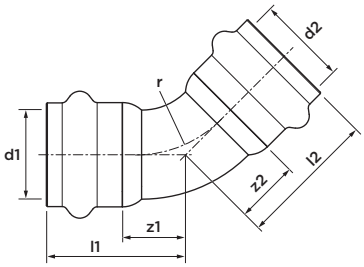
(press x MPT)



size	item no.	l1	l2	z1	slw2	weight [lb]
½" x MPT ½"	123 456 934	1.33	1.22	0.27	0.87	0.187
¾" x MPT ½"	123 456 935	1.33	1.26	0.27	1.10	0.236
¾" x MPT ¾"	123 456 936	1.33	1.26	0.27	1.26	0.289
¾" x MPT 1"	123 456 937	1.33	1.42	0.27	1.42	0.379
1" x MPT ¾"	123 456 938	1.50	1.26	0.31	1.42	0.410
1" x MPT 1"	123 456 939	1.50	1.42	0.31	1.42	0.454
1½" x MPT ¾"	123 456 940	1.68	1.50	0.30	1.97	0.697
1½" x MPT 1½"	123 456 941	1.68	1.65	0.30	2.17	0.966
2" x MPT 2"	123 456 942	1.92	1.69	0.31	2.56	1.217

506E 45° elbow EPDM

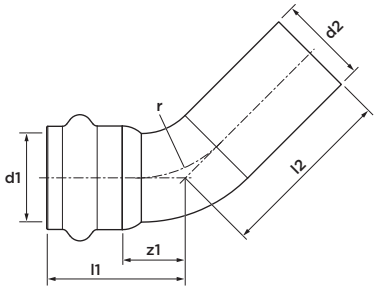
(2 x press)



size	item no.	l1/l2	z1/z2	r	weight [lb]
½"	123 456 965	1.64	0.62	1.02	0.214
¾"	123 456 966	1.74	0.68	1.26	0.276
1"	123 456 967	2.06	0.88	1.57	0.534
1½"	123 456 968	2.53	1.15	2.28	0.924
2"	123 456 969	3.00	1.39	2.83	1.373

506-2E 45° street elbow EPDM

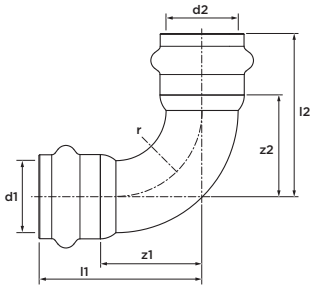
(press x street Ø)



size	item no.	l1	l2	z1	r	weight [lb]
½"	123 456 970	1.64	2.22	0.62	1.02	0.207
¾"	123 456 971	1.74	2.26	0.68	1.26	0.291
1"	123 456 972	2.06	2.62	0.88	1.57	0.542
1½"	123 456 973	2.53	3.00	1.15	2.28	0.968
2"	123 456 974	3.00	3.58	1.39	2.83	1.459

507E 90° elbow EPDM

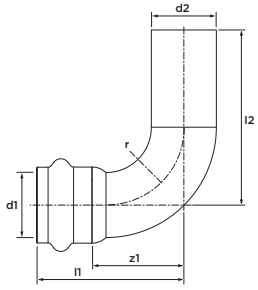
(2 x press)



size	item no.	l1/l2	z1/z2	r	weight [lb]
½"	123 456 955	2.24	1.18	1.02	0.256
¾"	123 456 956	2.48	1.41	1.26	0.342
1"	123 456 957	2.98	1.80	1.57	0.664
1½"	123 456 958	3.87	2.09	2.28	1.215
2"	123 456 959	4.66	3.05	2.83	1.817

507-2E 90° street elbow EPDM

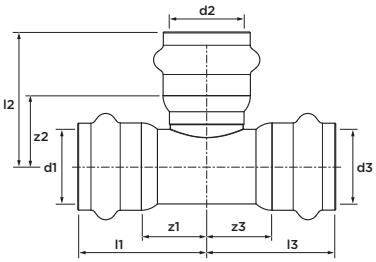
(press x street Ø)



size	item no.	l1	l2	z1	r	weight [lb]
½"	123 456 960	2.24	2.82	1.18	1.02	0.265
¾"	123 456 961	2.48	3.00	1.41	1.26	0.357
1"	123 456 962	2.98	3.54	1.80	1.57	0.686
1½"	123 456 963	3.87	4.38	2.09	2.28	1.259
2"	123 456 964	4.66	5.24	3.05	2.83	1.898

511E tee - EPDM

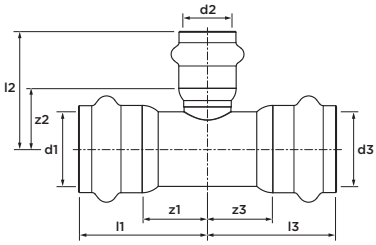
(3 x press)



size	item no.	l1/l3	l2	z1/z3	z2	weight [lb]
½"	123 456 975	1.71	1.93	0.65	0.87	0.313
¾"	123 456 976	2.01	1.93	0.94	0.87	0.419
1"	123 456 977	2.27	2.24	1.09	1.06	0.780
1½"	123 456 978	2.72	2.72	1.35	1.34	1.301
2"	123 456 979	3.21	3.35	1.59	1.73	1.905

511RE tee - reducing EPDM

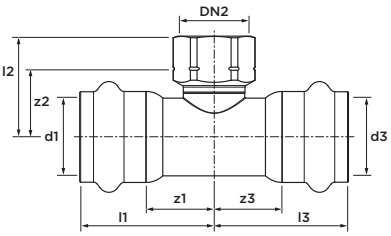
(3 x press)



size	item no.	l1/l3	l2	z1/z3	z2	weight [lb]
¾" x ¾" x ½"	123 456 980	2.01	2.01	0.94	0.94	0.401
1" x 1" x ½"	123 456 981	2.27	2.17	1.09	1.10	0.672
1" x 1" x ¾"	123 456 982	2.27	2.09	1.09	1.02	0.688
1½" x 1½" x ½"	123 456 983	2.72	2.44	1.35	1.38	1.091
1½" x 1½" x ¾"	123 456 984	2.72	2.36	1.35	1.30	1.107
1½" x 1½" x 1"	123 456 985	2.72	2.52	1.35	1.34	1.197
2" x 2" x ½"	123 456 986	3.21	2.68	1.59	1.61	1.574
2" x 2" x ¾"	123 456 987	3.21	2.60	1.59	1.54	1.587
2" x 2" x 1"	123 456 988	3.21	2.76	1.59	1.57	1.678
2" x 2" x 1½"	123 456 989	3.21	2.99	1.59	1.61	1.781

5712E tee - female EPDM

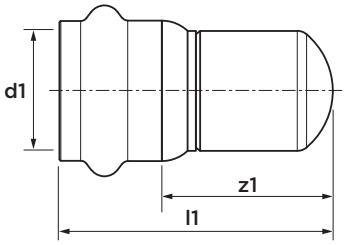
(press x press x FPT)



size	item no.	l1/l3	l2	z1/z3	z2	slw2	weight [lb]
½" x ½" x FPT ½"	123 456 990	1.71	1.46	0.65	1.14	1.10	0.370
¾" x ¾" x FPT ½"	123 456 991	2.01	1.57	0.94	1.26	1.10	0.459
¾" x ¾" x FPT ¾"	123 456 992	2.01	1.54	0.94	1.22	1.26	0.454
1" x 1" x FPT ½"	123 456 993	2.27	1.69	1.09	1.38	1.10	0.730
1" x 1" x FPT ¾"	123 456 994	2.27	1.69	1.09	1.38	1.26	0.728
1" x 1" x FPT 1"	123 456 995	2.27	2.85	1.09	1.34	1.61	0.888
1½" x 1½" x FPT ½"	123 456 996	2.72	2.01	1.35	1.69	1.10	1.149
1½" x 1½" x FPT ¾"	123 456 997	2.72	2.01	1.35	1.65	1.26	1.144
1½" x 1½" x FPT 1"	123 456 998	2.72	2.13	1.35	1.73	1.61	1.305
2" x 2" x FPT ½"	123 456 999	3.21	2.24	1.59	1.93	1.10	1.631
2" x 2" x FPT ¾"	123 457 000	3.21	2.24	1.59	1.89	1.26	1.627
2" x 2" x FPT 1"	123 457 001	3.21	2.36	1.59	1.97	1.61	1.788

517E cap EPDM

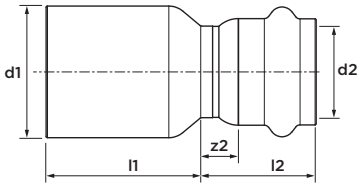
(1x press)



size	item no.	l1	z1	weight [lb]
½"	123 457 032	2.33	0.87	0.209
¾"	123 457 033	2.33	0.87	0.265
1"	123 457 034	2.99	1.81	0.452
1½"	123 457 035	3.18	1.80	0.705
2"	123 457 036	3.43	1.81	0.992

518E fitting reducer EPDM

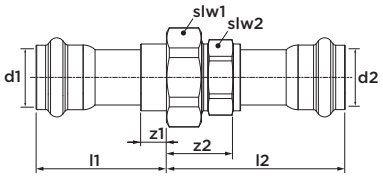
(street Ø x press)



size	item no.	l1	l2	z2	weight [lb]
Ø ¾" x ½"	123 457 002	1.52	1.65	0.46	0.216
Ø 1" x ½"	123 457 003	1.54	1.97	0.48	0.326
Ø 1" x ¾"	123 457 004	1.54	1.85	0.48	0.337
Ø 1½" x ½"	123 457 005	1.50	2.52	0.43	0.507
Ø 1½" x ¾"	123 457 006	1.50	2.40	0.44	0.518
Ø 1½" x 1"	123 457 007	1.65	2.24	0.47	0.597
Ø 2" x ½"	123 457 008	1.50	2.99	0.44	0.701
Ø 2" x ¾"	123 457 009	1.51	2.87	0.44	0.712
Ø 2" x 1"	123 457 010	1.65	2.72	0.47	0.791
Ø 2" x 1 ½"	123 457 011	1.84	2.36	0.46	0.860

5733E union EPDM

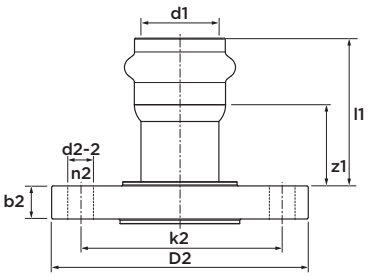
(2 x press)



size	item no.	l1	l2	z1	z2	slw1	slw2	weight [lb]
½"	123 457 022	3.16	3.31	2.09	2.25	1.61	1.10	3.086
¾"	123 457 023	3.37	3.45	2.31	2.39	1.81	1.42	3.748
1"	123 457 024	3.56	3.80	2.38	2.61	2.17	1.61	4.409
1½"	123 457 025	3.91	4.11	2.53	2.73	2.95	2.36	3.483
2"	123 457 026	4.02	4.10	2.41	2.48	3.66	2.91	5.071

5771E flange adapter - class 150 EPDM

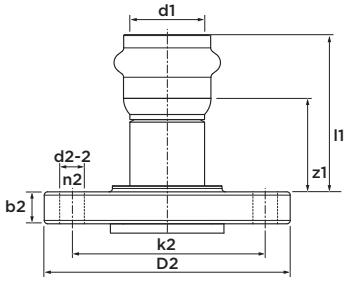
(press x flange)



size	item no.	l1	z1	b2	d2-2	k2	D2	n2	weight [lb]
½"	123 457 012	2.81	1.75	0.43	0.63	2.38	3.54	4	1.190
¾"	123 457 013	2.87	1.81	0.51	0.63	3.25	3.94	4	1.664
1"	123 457 014	3.13	1.95	0.55	0.63	3.13	4.33	4	2.363
1½"	123 457 015	3.41	2.04	0.67	0.63	3.88	4.92	4	3.638
2"	123 457 016	3.42	1.81	0.75	0.75	4.74	5.91	4	5.490

5772E van stone flange adapter -class 150 EPDM

(press x flange)



size	item no.	l1	z1	b2	d2-2	k2	D2	n2	weight [lb]
½"	123 457 017	3.33	2.27	0.43	0.63	2.38	3.54	4	1.371
¾"	123 457 018	3.33	2.27	0.51	0.63	3.25	3.94	4	1.742
1"	123 457 019	3.50	2.31	0.55	0.63	3.13	4.33	4	2.623
1½"	123 457 020	3.68	2.30	0.67	0.63	3.88	4.92	4	4.211
2"	123 457 021	4.42	2.81	0.75	0.75	4.74	5.91	4	7.412

599E sealing element EPDM

(lubricant free)

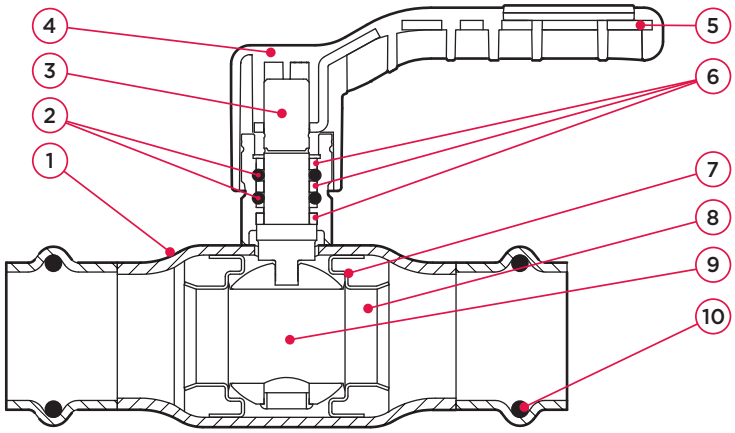
size	item no.	weight [lb]
½"	123 457 027	0.002
¾"	123 457 028	0.004
1"	123 457 029	0.004
1½"	123 457 030	0.009
2"	123 457 031	0.011

SM500E FullFlow ball valve EPDM

(2 x press)

specifications

- stainless steel AISI 316
- 100% full port
- compact, one piece design
- blow-out proof stem design
- max. pressure 300 psi (20.7 bar)
- operating temperature -31°F to 275°F (302°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- double o-ring EPDM stem seal
- unique valve identification
- 5-year limited warranty

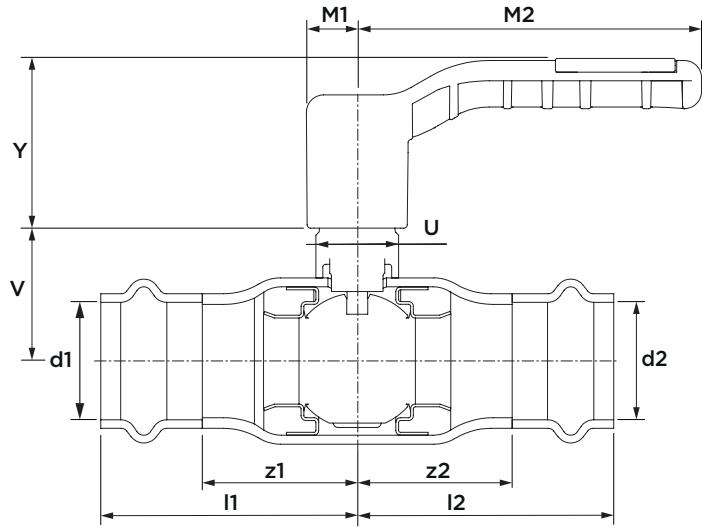


no.	component	material
1	body	stainless steel (AISI 316L/1.4404)
2	stem seal	EPDM
3	stem	stainless steel (AISI 316L/1.4404)
4	handle	fiberglass reinforced composite (PA66)
5	handle reinforcement	stainless steel (AISI 316L/1.4404)
6	stem bearing	PTFE
7	seat	PTFE
8	sprung support ring	stainless steel (AISI 316L/1.4404)
9	ball	stainless steel (AISI 316L/1.4404)
10	sealing element	EPDM

maximum pressure

operating pressure	test pressure shell	test pressure seat
300 psi (20.7 bar)	451 psi (31.1 bar)	331 psi (22.8 bar)

pressure equipment directive category	
all sizes	SEP



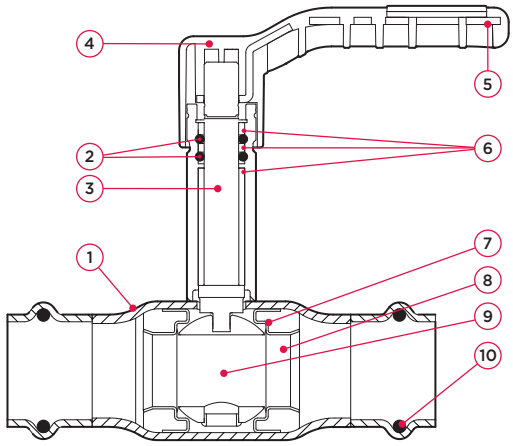
certifications & listings
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

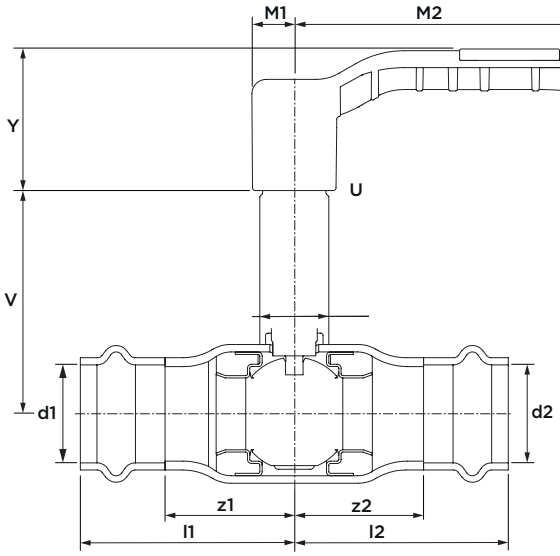
compliant with
- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- IAPMO/ANSI/CAN Z1117 (press ends)

size		item no.	weight [lb]	Cv [gpm]	l1/l2	z1/z2	M1	M2	V	Y	U
½"	(DN10)	123 457 176	0.66	24.4	2.24	1.20	0.47	2.95	1.14	1.69	0.71
¾"	(DN20)	123 457 177	0.90	42.9	2.51	1.47	0.47	2.95	1.26	1.69	0.71
1"	(DN25)	123 457 178	1.69	75.7	2.93	1.77	0.59	3.94	1.54	1.97	0.71
1½"	(DN40)	123 457 179	3.77	163.6	4.06	2.72	0.67	6.50	1.93	2.01	1.10
2"	(DN50)	123 457 180	5.84	356.5	4.69	3.11	0.67	6.50	2.24	2.01	1.10

SM500E FullFlow ball valve - stem extension EPDM

(2 x press)





specifications

- stainless steel AISI 316
- 100% full port
- compact, one piece design
- blow-out proof stem design
- max. pressure 300 psi (20.7 bar)
- operating temperature -31°F to 275°F (302°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- double o-ring EPDM stem seal
- unique valve identification
- 5-year limited warranty

no.	component	material
1	body	stainless steel (AISI 316L/1.4404)
2	stem seal	EPDM
3	stem	stainless steel (AISI 316L/1.4404)
4	handle	fiberglass reinforced composite (PA66)
5	handle reinforcement	stainless steel (AISI 316L/1.4404)
6	stem bearing	PTFE
7	seat	PTFE
8	sprung support ring	stainless steel (AISI 316L/1.4404)
9	ball	stainless steel (AISI 316L/1.4404)
10	sealing element	EPDM

maximum pressure

operating pressure	test pressure shell	test pressure seat
300 psi (20.7 bar)	451 psi (31.1 bar)	331 psi (22.8 bar)

pressure equipment directive category	
all sizes	SEP

certifications & listings
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

compliant with
- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- IAPMO/ANSI/CAN Z1117 (press ends)

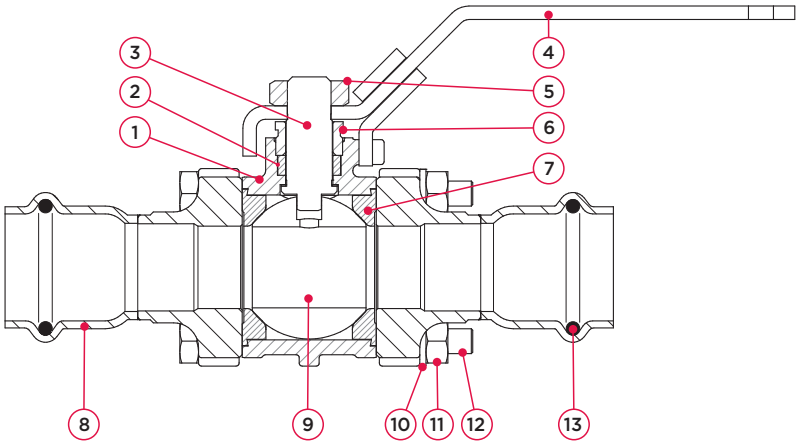
size		item no.	weight [lb]	Cv [gpm]	l1/l2	z1/z2	M1	M2	V	Y	U
½"	(DN10)	123 459 906	0.83	24.4	2.24	1.20	0.47	2.95	2.78	1.69	0.71
¾"	(DN20)	123 459 907	1.04	42.9	2.51	1.47	0.47	2.95	2.89	1.69	0.71
1"	(DN25)	123 459 908	1.88	75.7	2.93	1.77	0.59	3.94	3.01	1.97	0.71
1½"	(DN40)	123 459 909	4.08	163.6	4.06	2.72	0.67	6.50	3.95	2.01	1.10
2"	(DN50)	123 459 910	6.32	356.5	4.69	3.11	0.67	6.50	4.29	2.01	1.10

86VE 3-piece ball valve EPDM

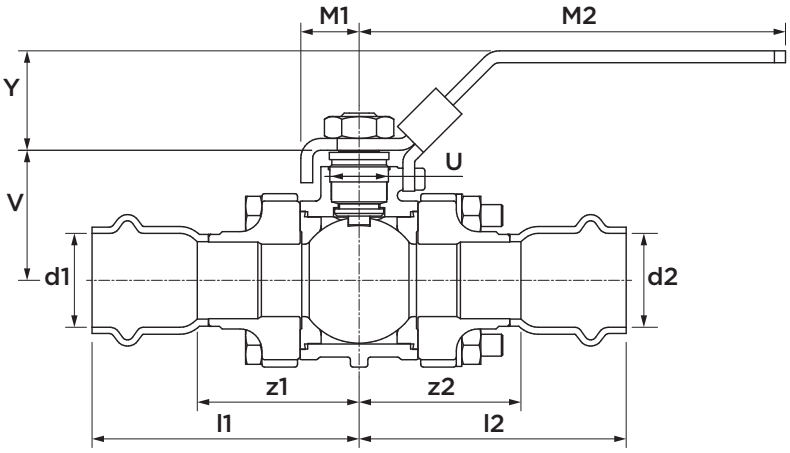
(2 x press)

specifications

- stainless steel ASTM A351-CF8M
- 100% full port
- easy to maintain, 3 piece design
- blow-out proof stem design
- max. pressure 500 psi (34.5 bar)
- operating temperature -31°F to 275°F (302°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- MPFTE stem packing
- ISO 5211 actuator mounting pad
- standardized locking handle (latch-lock lever)
- 5-year limited warranty



no.	component	material
1	body	stainless steel (ASTM A351-CF8M)
2	stem packing	MPTFE
3	stem	stainless steel (ASTM A276-316)
4	handle	stainless steel (AISI 304/1.4301), vinyl coated
5	handle nut	stainless steel (AISI 304/1.4301)
6	packing gland nut	stainless steel (ASTM A276-316)
7	seat	RPTFE
8	press end cap	stainless steel (ASTM A351-CF3M, 316L)
9	ball	stainless steel (ASTM A276-316)
10	lockwasher	stainless steel (AISI 304/1.4301)
11	hex nut	stainless steel (18-8)
12	body bolt	stainless steel (18-8)
13	sealing element	EPDM



maximum pressure		
operating pressure	**test pressure shell**	**test pressure seat**
500 psi (34.5 bar)	750 psi (51.7 bar)	550 psi (37.9 bar)

pressure equipment directive category	
all sizes	SEP

certifications & listings
- IAPMO/ANSI Z1157*
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

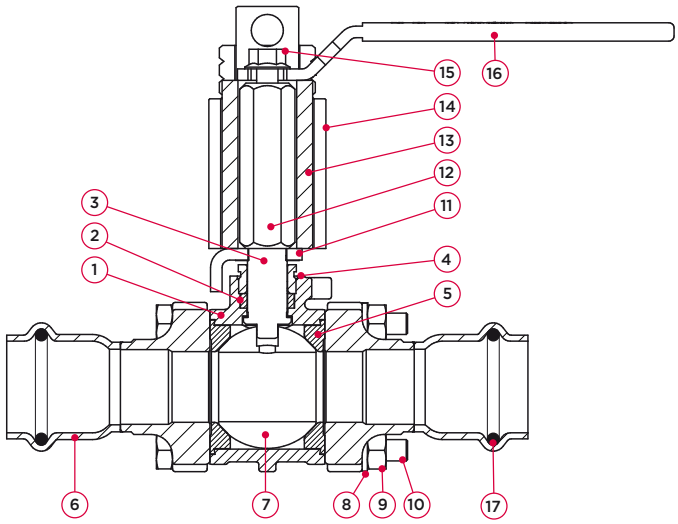
compliant with
- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- Uniform Plumbing Code (UPC®)
- International Plumbing Code (IPC®)
- National Plumbing Code of Canada (NPCC)
- MSS SP-110
- IAPMO/ANSI/CAN Z1117 (press ends)

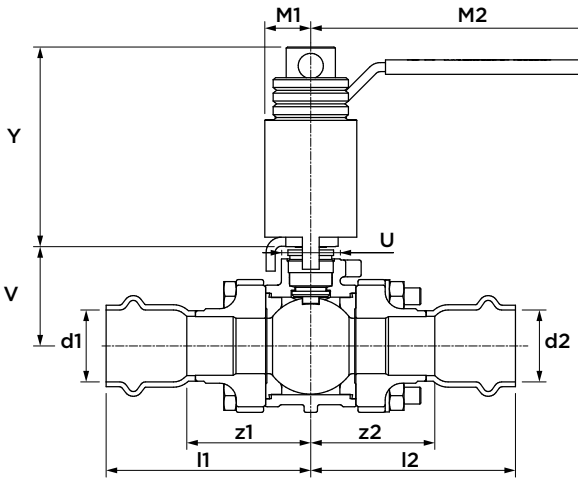
size		item no.	weight [lb]	Cv [gpm]	l1/l2	z1/z2	M1	M2	V	Y	U
½"	(DN10)	123 457 451	1.61	25.4	2.74	1.67	0.67	4.90	1.30	1.17	0.87
¾"	(DN20)	123 457 452	2.22	50.9	3.05	2.00	0.67	4.90	1.49	1.17	0.87
1"	(DN25)	123 457 453	3.42	68.2	3.42	2.22	0.94	6.15	1.95	1.04	1.31
1½"	(DN40)	123 457 454	7.55	169.9	4.28	2.88	1.25	7.53	2.45	1.53	1.37
2"	(DN50)	123 457 455	12.97	374.6	4.94	3.31	1.25	7.53	2.79	1.53	1.37

* IAPMO/ANSI Z1157 applicable to ½"- 1" Apollo® SmartPress 86V 3-piece valve item numbers listed above; for sizes 1½"- 2" requiring IAPMO/ANSI Z1157 approval, please contact Aalberts integrated piping systems technical support team for alternatively approved part numbers (300 psi max. pressure rating, PTFE seat).

86VESE 3-piece ball valve - stem extension EPDM

(2 x press)





specifications

- stainless steel ASTM A351-CF8M
- 100% full port
- easy to maintain, 3 piece design
- blow-out proof stem design
- max. pressure 500 psi (34.5 bar)
- operating temperature -31°F to 275°F (302°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- MPFTE stem packing
- ISO 5211 actuator mounting pad
- 2 ¼" locking stem extension
- standardized locking handle (latch-lock lever)
- 5-year limited warranty

no.	component	material
1	body	stainless steel (ASTM A351-CF8M)
2	stem packing	MPTFE
3	stem	stainless steel (ASTM A27-316)
4	packing gland nut	stainless steel (ASTM A27-316)
5	seat	RPTFE
6	press end cap	stainless steel (ASTM A351-CF3M, 316L)
7	ball	stainless steel (ASTM A276-316)
8	lockwasher	stainless steel (AISI 304/1.4301)
9	hex nut	stainless steel (18-8)
10	body bolt	stainless steel (18-8)
11	handle stop	carbon steel (ASTM A108-1215), zinc plated
12	stem extension	carbon steel (ASTM A108-1215), zinc plated
13	inner sleeve	carbon steel (ASTM A108-1215), zinc plated
14	outer sleeve	carbon steel (ASTM A108-1215), zinc plated
15	lever screw	steel, zinc plated
16	handle	stainless steel (AISI 304/1.4301, vinyl coated
17	sealing element	EPDM

maximum pressure

operating pressure	test pressure shell	test pressure seat
500 psi (34.5 bar)	750 psi (51.7 bar)	550 psi (37.9 bar)

pressure equipment directive category	
all sizes	SEP

certifications & listings
- IAPMO/ANSI Z1157*
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

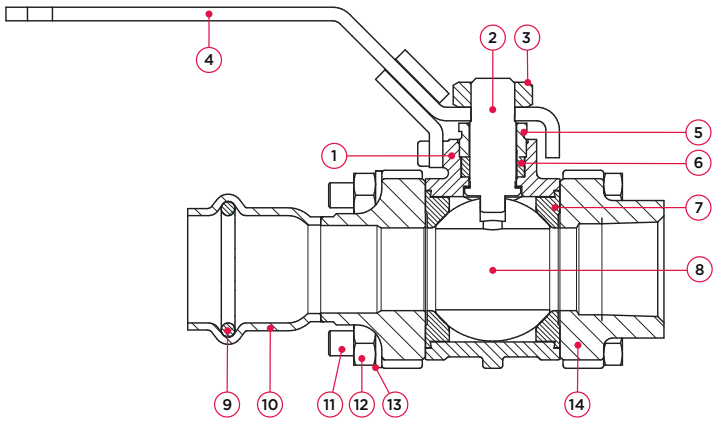
compliant with
- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- Uniform Plumbing Code (UPC®)
- International Plumbing Code (IPC®)
- National Plumbing Code of Canada (NPCC)
- MSS SP-110
- IAPMO/ANSI/CAN Z1117 (press ends)

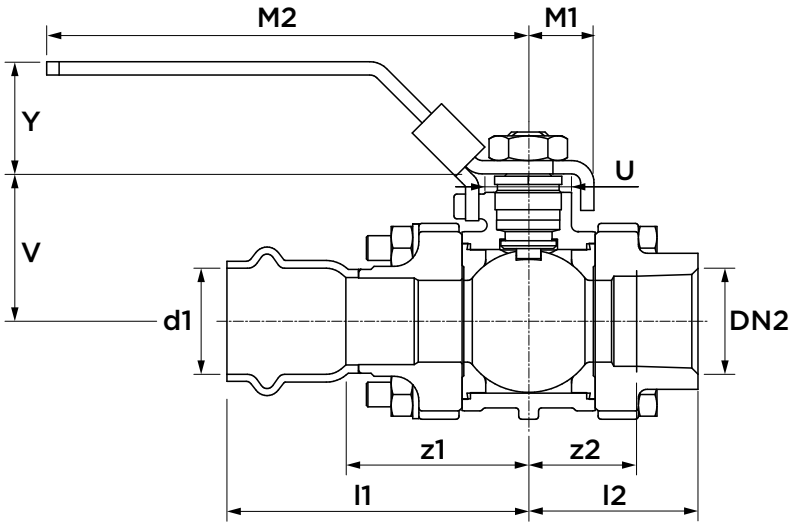
size		item no.	weight [lb]	Cv [gpm]	l1/l2	z1/z2	M1	M2	V	Y	U
½"	(DN10)	123 457 456	2.30	25.4	2.74	1.67	0.69	4.78	1.30	2.97	0.87
¾"	(DN20)	123 457 457	2.91	50.9	3.05	2.00	0.69	4.78	1.49	2.97	0.87
1"	(DN25)	123 457 458	4.43	68.2	3.42	2.22	0.98	5.60	1.95	3.00	1.31
1½"	(DN40)	123 457 459	8.91	169.9	4.28	2.88	1.25	7.75	2.45	3.15	1.37
2"	(DN50)	123 457 460	14.38	374.6	4.94	3.31	1.25	7.75	2.79	3.15	1.37

* IAPMO/ANSI Z1157 applicable to ½"- 1" Apollo® SmartPress 86V 3-piece valve item numbers listed above; for sizes 1½"- 2" requiring IAPMO/ANSI Z1157 approval, please contact Aalberts integrated piping systems technical support team for alternatively approved part numbers (300 psi max. pressure rating, PTFE seat).

86VEFP 3-piece ball valve EPDM

(press x FPT)





specifications

- stainless steel ASTM A351-CF8M
- 100% full port
- easy to maintain, 3 piece design
- blow-out proof stem design
- max. pressure 500 psi (34.5 bar)
- operating temperature -31°F to 275°F (302°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- MPFTE stem packing
- ISO 5211 actuator mounting pad
- standardized locking handle (latch-lock lever)
- 5-year limited warranty

no.	component	material
1	body	ASTM A354-CF8M
2	stem	stainless steel (ASTM A276-316)
3	handle nut	stainless steel (AISI 304/1.4301)
4	handle	stainless steel (AISI 304/1.4301), vinyl coated
5	gland nut	stainless steel (ASTM A276-316)
6	packing	MPTFE
7	seat	RPTFE
8	ball	stainless steel (ASTM A276-316)
9	sealing element	EPDM
10	press end cap	stainless steel (ASTM A351-CF3M, 316L)
11	body bolt	stainless steel (18-8)
12	hex nut	stainless steel (18-8)
13	lockwasher	stainless steel (AISI 304/1.4301)
14	FPT end cap	stainless steel (ASTM A351-CF3M)

maximum pressure

operating pressure	test pressure shell	test pressure seat
500 psi (34.5 bar)	750 psi (51.7 bar)	550 psi (37.9 bar)

pressure equipment directive category	
all sizes	SEP

certifications & listings

- IAPMO/ANSI Z1157*
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

compliant with

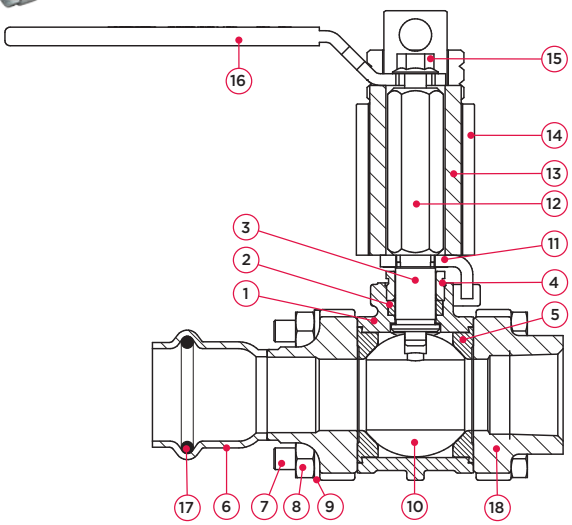
- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- Uniform Plumbing Code (UPC®)
- International Plumbing Code (IPC®)
- National Plumbing Code of Canada (NPCC)
- MSS SP-110
- IAPMO/ANSI/CAN Z1117 (press ends)

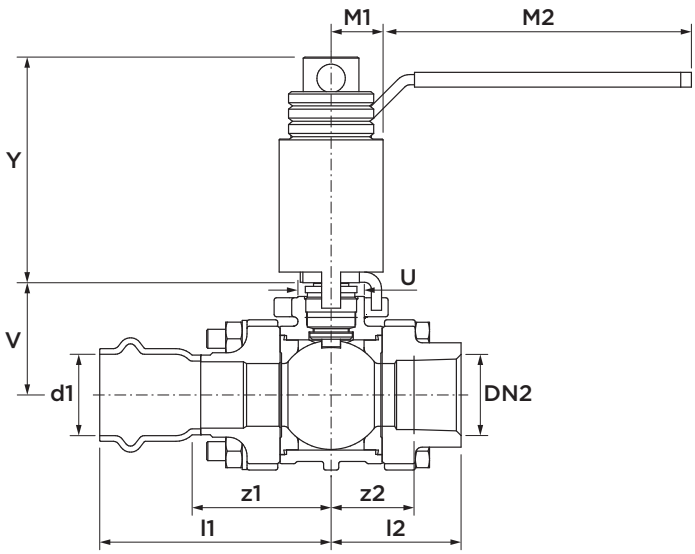
size		item no.	weight [lb]	Cv [gpm]	l1	l2	z1	z2	M1	M2	V	Y	U
½" x FPT½"	(DN10)	123 457 471	1.54	25.4	1.42	2.74	1.67	0.88	0.67	4.90	1.30	1.17	0.87
¾" x FPT¾"	(DN20)	123 457 472	2.16	50.9	1.71	3.05	2.00	1.16	0.67	4.90	1.49	1.17	0.87
1" x FPT1"	(DN25)	123 457 473	3.27	68.2	1.93	3.42	2.22	1.27	0.94	6.15	1.95	1.04	1.31
1½" x FPT1½"	(DN40)	123 457 474	7.39	169.9	2.59	4.28	2.88	1.91	1.25	7.53	2.45	1.53	1.37
2" x FPT2"	(DN50)	123 457 475	12.74	374.6	3.02	4.94	3.31	2.32	1.25	7.53	2.79	1.53	1.37

* IAPMO/ANSI Z1157 applicable to ½"- 1" Apollo® SmartPress 86V 3-piece valve item numbers listed above; for sizes 1½"- 2" requiring IAPMO/ANSI Z1157 approval, please contact Aalberts integrated piping systems technical support team for alternatively approved part numbers (300 psi max. pressure rating, PTFE seat).

86VESEFP 3-piece ball valve - stem extension EPDM

(press x FPT)





specifications

- stainless steel ASTM A351-CF8M
- 100% full port
- easy to maintain, 3 piece design
- blow-out proof stem design
- max. pressure 500 psi (34.5 bar)
- operating temperature -31°F to 275°F (302°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- MPFTE stem packing
- ISO 5211 actuator mounting pad
- 2 ¼" locking stem extension
- standardized locking handle (latch-lock lever)
- 5-year liimted warranty

no.	component	material
1	body	stainless steel (ASTM A351-CF8M)
2	stem packing	MPTFE
3	stem	stainless steel (ASTM A276-316)
4	packing gland nut	stainless steel (ASTM A276-316))
5	seat	RPTFE
6	press end cap	stainless steel (ASTM A351-CF3M, 316L)
7	body bolt	stainless steel (18-8)
8	nut	stainless steel (18-8))
9	lockwasher	stainless steel (AISI 304/1.4301)
10	ball	stainless steel (ASTM A276-316)
11	handle stop	carbon steel (ASTM A108-1215) zinc plated
12	stem extension	carbon steel (ASTM A108-1215) zinc plated
13	inner sleeve	carbon steel (ASTM A108-1215) zinc plated
14	outer sleeve	carbon steel (ASTM A108-1215) zinc plated
15	lever screw	steel, zinc plated
16	handle	stainless steel (AISI 304/1.4301), vinyl coated
17	sealing element	EPDM
18	FPT end cap	stainless steel (ASTM A351-CF3M)

maximum pressure

operating pressure	test pressure shell	test pressure seat
500 psi (34.5 bar)	750 psi (51.7 bar)	550 psi (37.9 bar)

pressure equipment directive category	
all sizes	SEP

certifications & listings

- IAPMO/ANSI Z1157*
- NSF/ANSI/CAN 61
- NSF/ANSI/CAN 372

compliant with

- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- Uniform Plumbing Code (UPC®)
- International Plumbing Code (IPC®)
- National Plumbing Code of Canada(NPCC)
- MSS SP-110
- IAPMO/ANSI/CAN Z1117 (press ends)

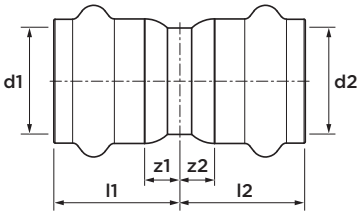
size		item no.	weight [lb]	Cv [gpm]	l1	l2	z1	z2	M1	M2	V	Y	U
½" x FPT½"	(DN10)	123 457 476	2.23	25.4	1.42	2.74	1.67	0.88	0.69	4.78	1.30	2.97	2.23
¾" x FPT¾"	(DN20)	123 457 477	2.85	50.9	1.71	3.05	2.00	1.16	0.69	4.78	1.49	2.97	2.85
1" x FPT1"	(DN25)	123 457 478	4.28	68.2	1.93	3.42	2.22	1.27	0.88	5.60	1.95	4.95	4.28
1½" x FPT1½"	(DN40)	123 457 479	8.76	169.9	2.59	4.28	2.88	1.91	1.00	7.75	2.45	3.15	8.76
2" x FPT2"	(DN50)	123 457 480	14.14	374.6	3.02	4.94	2.32	2.32	1.00	7.75	2.79	3.15	14.14

* IAPMO/ANSI Z1157 applicable to ½"- 1" Apollo® SmartPress 86V 3-piece valve item numbers listed above; for sizes 1½"- 2" requiring IAPMO/ANSI Z1157 approval, please contact Aalberts integrated piping systems technical support team for alternatively approved part numbers (300 psi max. pressure rating, PTFE seat).

Apollo® SmartPress

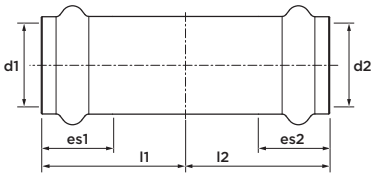
FKM fittings & valves

500F coupling FKM
(2 x press)



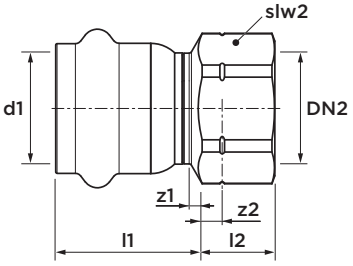
size	item no.	l1/l2	z1/z2	weight [lb]
½"	123 457 037	1.39	0.37	0.190
¾"	123 457 038	1.39	0.37	0.231
1"	123 457 039	1.56	0.37	0.425
1½"	123 457 040	1.74	0.36	0.683
2"	123 457 041	1.98	0.37	0.981

501F coupling - no stop FKM
(2 x press)



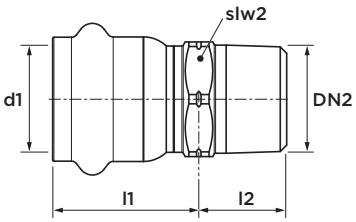
size	item no.	l1/l2	es1/es2	weight [lb]
½"	123 457 042	1.89	1.06	0.256
¾"	123 457 043	1.96	1.06	0.320
1"	123 457 044	2.28	1.18	0.608
1½"	123 457 045	2.67	1.38	1.008
2"	123 457 046	3.09	1.61	1.464

503F adapter - female FKM
(press x FPT)



size	item no.	l1	l2	z1	z2	slw2	weight [lb]
½" x FPT ½"	123 457 056	1.33	0.94	0.27	0.63	1.10	0.240
¾" x FPT ½"	123 457 057	1.33	0.94	0.27	0.63	1.10	0.260
¾" x FPT ¾"	123 457 058	1.33	0.98	0.27	0.63	1.26	0.260
1" x FPT ½"	123 457 059	1.50	0.87	0.31	0.55	1.42	0.474
1" x FPT ¾"	123 457 060	1.50	0.87	0.31	0.55	1.42	0.428
1" x FPT 1"	123 457 061	1.50	1.10	0.31	0.71	1.61	0.520
1½" x FPT 1"	123 457 062	1.68	1.02	0.30	0.63	1.97	0.897
1½" x FPT ¼"	123 457 063	1.68	1.02	0.30	0.59	1.97	0.723
1½" x FPT 1½"	123 457 064	1.68	1.14	0.30	0.75	2.36	1.001
2" x FPT 1¼"	123 457 065	1.92	1.18	0.31	0.75	2.56	1.512
2" x FPT 1½"	123 457 066	1.92	1.18	0.31	0.75	2.56	1.356
2"x FPT 2"	123 457 067	1.92	1.38	0.31	0.94	2.76	1.338

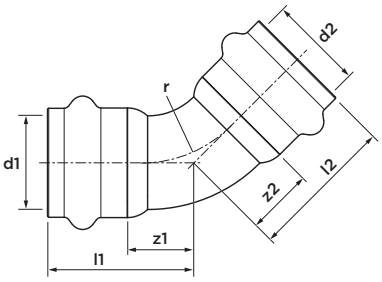
504F adapter - male FKM
(press x MPT)



size	item no.	l1	l2	z1	slw2	weight [lb]
½" x MPT ½"	123 457 047	1.33	1.22	0.27	0.87	0.187
¾" x MPT ½"	123 457 048	1.33	1.26	0.27	1.10	0.236
¾" x MPT ¾"	123 457 049	1.33	1.26	0.27	1.26	0.289
¾" x MPT 1"	123 457 050	1.33	1.42	0.27	1.42	0.379
1" x MPT ¾"	123 457 051	1.50	1.26	0.31	1.42	0.410
1" x MPT 1"	123 457 052	1.50	1.42	0.31	1.42	0.454
1½" x MPT ¾"	123 457 053	1.68	1.50	0.30	1.97	0.697
1½" x MPT 1½"	123 457 054	1.68	1.65	0.30	2.17	0.966
2" x MPT 2"	123 457 055	1.92	1.69	0.31	2.56	1.217

506F 45° elbow FKM

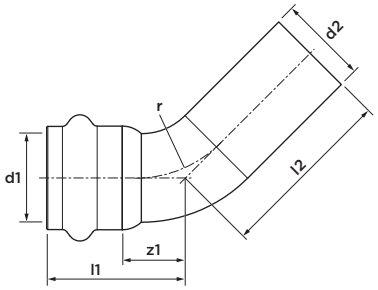
(2 x press)



size	item no.	l1/l2	z1/z2	r	weight [lb]
½"	123 457 078	1.64	0.62	1.02	0.214
¾"	123 457 079	1.74	0.68	1.26	0.276
1"	123 457 080	2.06	0.88	1.57	0.534
1½"	123 457 081	2.53	1.15	2.28	0.924
2"	123 457 082	3.00	1.39	2.83	1.373

506-2F 45° street elbow FKM

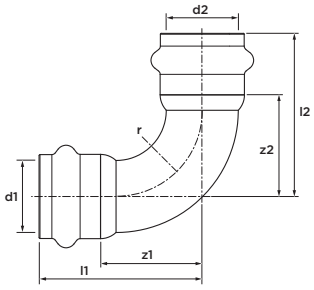
(press x street Ø)



size	item no.	l1	l2	z1	r	weight [lb]
½"	123 457 083	1.64	2.22	0.62	1.02	0.207
¾"	123 457 084	1.74	2.26	0.68	1.26	0.291
1"	123 457 085	2.06	2.62	0.88	1.57	0.542
1½"	123 457 086	2.53	3.00	1.15	2.28	0.968
2"	123 457 087	3.00	3.58	1.39	2.83	1.459

507F 90° elbow FKM

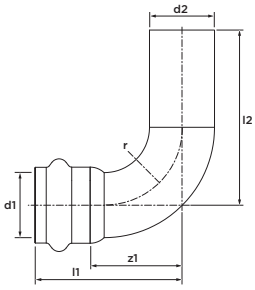
(2 x press)



size	item no.	l1/l2	z1/z2	r	weight [lb]
½"	123 457 068	2.24	1.18	1.02	0.256
¾"	123 457 069	2.48	1.41	1.26	0.342
1"	123 457 070	2.98	1.80	1.57	0.664
1½"	123 457 071	3.87	2.09	2.28	1.215
2"	123 457 072	4.66	3.05	2.83	1.817

507-2F 90° street elbow FKM

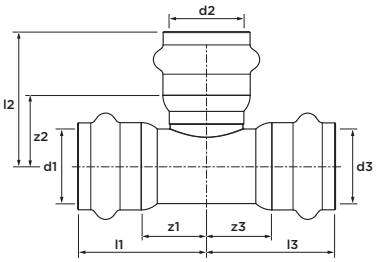
(press x street Ø)



size	item no.	l1	l2	z1	r	weight [lb]
½"	123 457 073	2.24	2.82	1.18	1.02	0.265
¾"	123 457 074	2.48	3.00	1.41	1.26	0.357
1"	123 457 075	2.98	3.54	1.80	1.57	0.686
1½"	123 457 076	3.87	4.38	2.09	2.28	1.259
2"	123 457 077	4.66	5.24	3.05	2.83	1.898

511F tee FKM

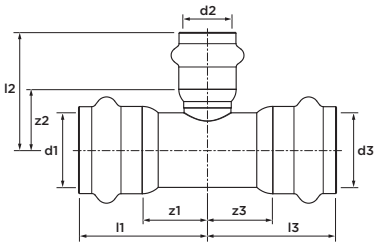
(3 x press)



size	item no.	l1/l3	l2	z1/z3	z2	weight [lb]
½"	123 457 088	1.71	1.93	0.65	0.87	0.313
¾"	123 457 089	2.01	1.93	0.94	0.87	0.419
1"	123 457 090	2.27	2.24	1.09	1.06	0.780
1½"	123 457 091	2.72	2.72	1.35	1.34	1.301
2"	123 457 092	3.21	3.35	1.59	1.73	1.905

511RF tee - reducing FKM

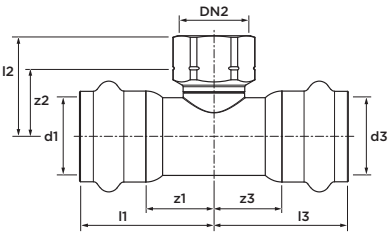
(3 x press)



size	item no.	l1/l3	l2	z1/z3	z2	weight [lb]
¾" x ¾" x ½"	123 457 093	2.01	2.01	0.94	0.94	0.401
1" x 1" x ½"	123 457 094	2.27	2.17	1.09	1.10	0.672
1" x 1" x ¾"	123 457 095	2.27	2.09	1.09	1.02	0.688
1½" x 1½" x ½"	123 457 096	2.72	2.44	1.35	1.38	1.091
1½" x 1½" x ¾"	123 457 097	2.72	2.36	1.35	1.30	1.107
1½" x 1½" x 1"	123 457 098	2.72	2.52	1.35	1.34	1.197
2" x 2" x ½"	123 457 099	3.21	2.68	1.59	1.61	1.574
2" x 2" x ¾"	123 457 100	3.21	2.60	1.59	1.54	1.587
2" x 2" x 1"	123 457 101	3.21	2.76	1.59	1.57	1.678
2" x 2" x 1½"	123 457 102	3.21	2.99	1.59	1.61	1.781

5712F tee - female FKM

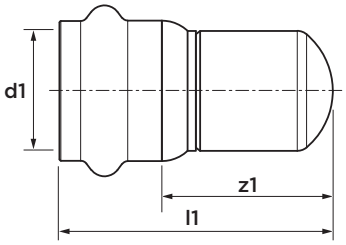
(press x press x FPT)



size	item no.	l1/l3	l2	z1/z3	z2	slw2	weight [lb]
½" x ½" x FPT ½"	123 457 103	1.71	1.46	0.65	1.14	1.10	0.370
¾" x ¾" x FPT ½"	123 457 104	2.01	1.57	0.94	1.26	1.10	0.459
¾" x ¾" x FPT ¾"	123 457 105	2.01	1.54	0.94	1.22	1.26	0.454
1" x 1" x FPT ½"	123 457 106	2.27	1.69	1.09	1.38	1.10	0.730
1" x 1" x FPT ¾"	123 457 107	2.27	1.69	1.09	1.38	1.26	0.728
1" x 1" x FPT 1"	123 457 108	2.27	2.85	1.09	1.34	1.61	0.888
1½" x 1½" x FPT ½"	123 457 109	2.72	2.01	1.35	1.69	1.10	1.149
1½" x 1½" x FPT ¾"	123 457 110	2.72	2.01	1.35	1.65	1.26	1.144
1½" x 1½" x FPT 1"	123 457 111	2.72	2.13	1.35	1.73	1.61	1.305
2" x 2" x FPT ½"	123 457 112	3.21	2.24	1.59	1.93	1.10	1.631
2" x 2" x FPT ¾"	123 457 113	3.21	2.24	1.59	1.89	1.26	1.627
2" x 2" x FPT 1"	123 457 114	3.21	2.36	1.59	1.97	1.61	1.788

517F cap FKM

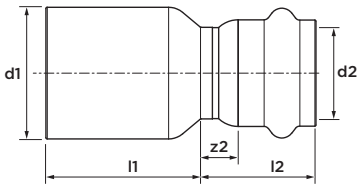
(1x press)



size	item no.	l1	z1	weight [lb]
½"	123 457 145	2.33	0.87	0.209
¾"	123 457 146	2.33	0.87	0.265
1"	123 457 147	2.99	1.81	0.452
1½"	123 457 148	3.18	1.80	0.705
2"	123 457 149	3.43	1.81	0.992

518F fitting reducer FKM

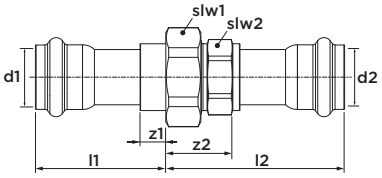
(street Ø x press)



size	item no.	l1	l2	z2	weight [lb]
Ø ¾" x ½"	123 457 115	1.52	1.65	0.46	0.216
Ø 1" x ½"	123 457 116	1.54	1.97	0.48	0.326
Ø 1" x ¾"	123 457 117	1.54	1.85	0.48	0.337
Ø 1½" x ½"	123 457 118	1.50	2.52	0.43	0.507
Ø 1½" x ¾"	123 457 119	1.50	2.40	0.44	0.518
Ø 1½" x 1"	123 457 120	1.65	2.24	0.47	0.597
Ø 2" x ½"	123 457 121	1.50	2.99	0.44	0.701
Ø 2" x ¾"	123 457 122	1.51	2.87	0.44	0.712
Ø 2" x 1"	123 457 123	1.65	2.72	0.47	0.791
Ø 2" x 1 ½"	123 457 124	1.84	2.36	0.46	0.860

5733F union FKM

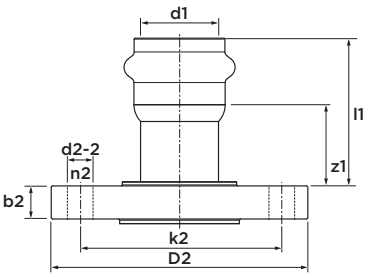
(2 x press)



size	item no.	l1	l2	z1	z2	slw1	slw2	weight [lb]
½"	123 457 135	3.16	3.31	2.09	2.25	1.61	1.10	3.086
¾"	123 457 136	3.37	3.45	2.31	2.39	1.81	1.42	3.748
1"	123 457 137	3.56	3.80	2.38	2.61	2.17	1.61	4.409
1½"	123 457 138	3.91	4.11	2.53	2.73	2.95	2.36	3.483
2"	123 457 139	4.02	4.10	2.41	2.48	3.66	2.91	5.071

5771F flange adapter - class 150 FKM

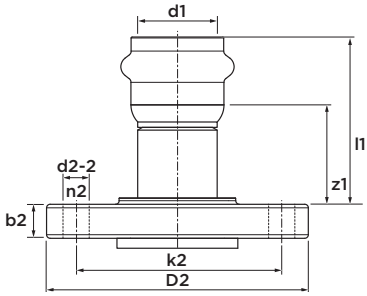
(press x flange)



size	item no.	l1	z1	b2	d2-2	k2	D2	n2	weight [lb]
½"	123 457 125	2.81	1.75	0.43	0.63	2.38	3.54	4	1.190
¾"	123 457 126	2.87	1.81	0.51	0.63	3.25	3.94	4	1.664
1"	123 457 127	3.13	1.95	0.55	0.63	3.13	4.33	4	2.363
1½"	123 457 128	3.41	2.04	0.67	0.63	3.88	4.92	4	3.638
2"	123 457 129	3.42	1.81	0.75	0.75	4.74	5.91	4	5.490

5772F van stone flange adapter - class 150 FKM

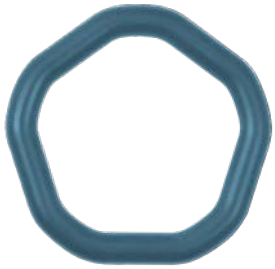
(press x flange)



size	item no.	l1	z1	b2	d2-2	k2	D2	n2	weight [lb]
½"	123 457 130	3.33	2.27	0.43	0.63	2.38	3.54	4	1.371
¾"	123 457 131	3.33	2.27	0.51	0.63	3.25	3.94	4	1.742
1"	123 457 132	3.50	2.31	0.55	0.63	3.13	4.33	4	2.623
1½"	123 457 133	3.68	2.30	0.67	0.63	3.88	4.92	4	4.211
2"	123 457 134	4.42	2.81	0.75	0.75	4.74	5.91	4	7.412

599F sealing element FKM

(silicone free lubricant)



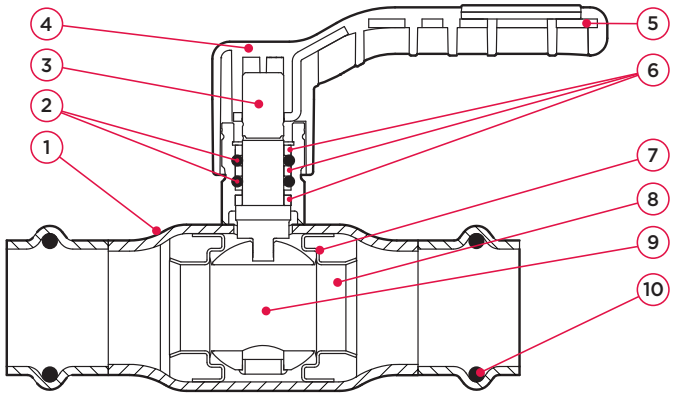
size	item no.	weight [lb]
½"	123 457 140	0.002
¾"	123 457 141	0.004
1"	123 457 142	0.004
1½"	123 457 143	0.009
2"	123 457 44	0.011

SM500F FullFlow ball valve FKM

(2 x press)

specifications

- stainless steel AISI 316
- 100% full port
- compact, one piece design
- blow-out proof stem design
- max. pressure 300 psi (20.7 bar)
- operating temperature -4°F to 275°F (302°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- double o-ring FKM stem seal
- unique valve identification
- 5-year limited warranty



no.	component	material
1	body	stainless steel (AISI 316L/1.4404)
2	stem seal	FKM
3	stem	stainless steel (AISI 316L/1.4404)
4	handle	fiberglass reinforced composite (PA66)
5	handle reinforcement	stainless steel (AISI 316L/1.4404)
6	stem bearing	PTFE
7	seat	PTFE
8	sprung support ring	stainless steel (AISI 304/1.4401)
9	ball	stainless steel (AISI 304/1.4401)
10	sealing element	FKM

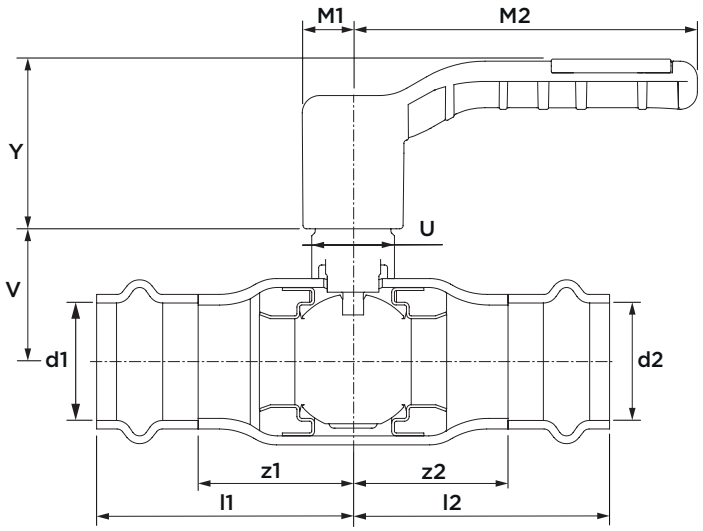
maximum pressure

max. operating pressure	test pressure shell	test pressure seat
300 psi (20.7 bar)	451 (31.1 bar)	331 psi (22.8 bar)

pressure equipment directive category	
all sizes	SEP

compliant with

- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- IAPMO/ANSI/CAN Z1117 (press ends)



size		item no.	weight [lb]	Cv [gpm]	l1/l2	z1/z2	M1	M2	V	Y	U
½"	(DN10)	123 457 181	0.66	24.4	2.24	1.20	0.47	2.95	1.14	1.69	0.71
¾"	(DN20)	123 457 182	0.90	42.9	2.51	1.47	0.47	2.95	1.26	1.69	0.71
1"	(DN25)	123 457 183	1.69	75.7	2.93	1.77	0.59	3.94	1.54	1.97	0.71
1½"	(DN40)	123 457 184	3.77	163.6	4.06	2.72	0.67	6.50	1.93	2.01	1.10
2"	(DN50)	123 457 185	5.84	356.5	4.69	3.11	0.67	6.50	2.24	2.01	1.10

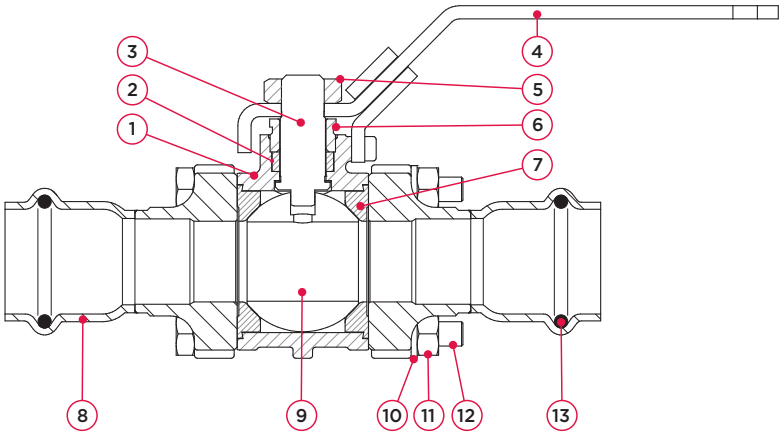
* factory installed FKM sealing elements for Apollo® SmartPress SM500F FullFlow ball valves are pre-lubricated with silicone based lubricant

86VF 3-piece ball valve FKM

(2 x press)

specifications

- stainless steel ASTM A351-CF8M
- 100% full port
- easy to maintain, 3 piece design
- blow-out proof stem design
- max. pressure 500 psi (34.5 bar)
- operating temperature -4°F to 392°F (446°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- MPFTE stem packing
- ISO 5211 actuator mounting pad
- standardized locking handle (latch-lock lever)
- 5-year limited warranty

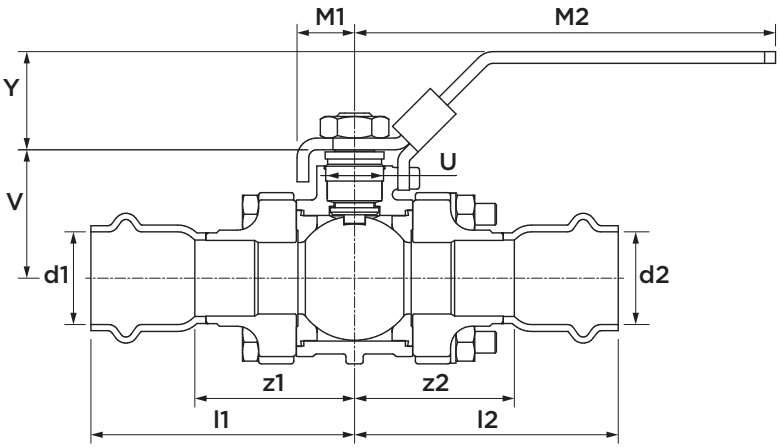


no.	component	material
1	body	stainless steel (ASTM A351-CF8M)
2	stem packing	MPTFE
3	stem	stainless steel (ASTM A276-316)
4	handle	stainless steel (AISI 304/1.4301), vinyl coated
5	handle nut	stainless steel (AISI 304/1.4301)
6	packing gland nut	stainless steel (ASTM A276-316)
7	seat	RPTFE
8	press end cap	stainless steel (ASTM A351-CF3M, 316L)
9	ball	stainless steel (ASTM A276-316)
10	lockwasher	stainless steel (AISI 304/1.4301)
11	hex nut	stainless steel (18-8)
12	body bolt	stainless steel (18-8)
13	sealing element	FKM

maximum pressure

operating pressure	test pressure shell	test pressure seat
500 psi (34.5 bar)	750 psi (51.7 bar)	550 psi (37.9 bar)

pressure equipment directive category	
all sizes	SEP



certifications & listings
- IAPMO/ANSI Z1157*

compliant with
- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- MSS SP-110
- IAPMO/ANSI/CAN Z1117 (press ends)

size		item no.	weight [lb]	Cv [gpm]	l1/l2	z1/z2	M1	M2	V	Y	U
½"	(DN10)	123 457 466	1.61	25.4	2.74	1.67	0.67	4.90	1.30	1.17	0.87
¾"	(DN20)	123 457 467	2.22	50.9	3.05	2.00	0.67	4.90	1.49	1.17	0.87
1"	(DN25)	123 457 468	3.42	68.2	3.42	2.22	0.94	6.15	1.95	1.04	1.31
1½"	(DN40)	123 457 469	7.55	169.9	4.28	2.88	1.25	7.53	2.45	1.53	1.37
2"	(DN50)	123 457 470	12.97	374.6	4.94	3.31	1.25	7.53	2.79	1.53	1.37

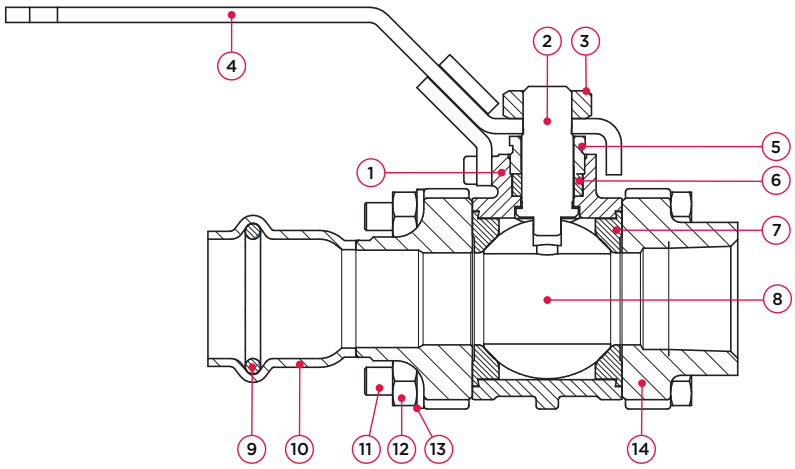
* IAPMO/ANSI Z1157 applicable to ½"- 1" Apollo® SmartPress 86V 3-piece valve item numbers listed above; for sizes 1½"- 2" requiring IAPMO/ANSI Z1157 approval, please contact Aalberts integrated piping systems technical support team for alternatively approved part numbers (300 psi max. pressure rating, PTFE seat).

86VFFP 3-piece ball valve FKM

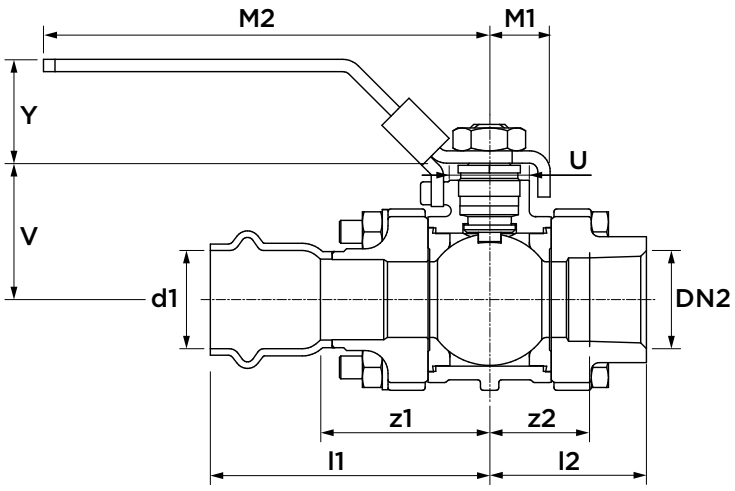
(press x FPT)

specifications

- stainless steel ASTM A351-CF8M
- 100% full port
- easy to maintain, 3 piece design
- blow-out proof stem design
- max. pressure 500 psi (34.5 bar)
- operating temperature -4°F to 392°F (446°F short term)
- Leak Before Press® technology
- Visu-Control® foil material and press identifier
- MPFTE stem packing
- ISO 5211 actuator mounting pad
- standardized locking handle (latch-lock lever)
- 5-year limited warranty



no.	component	material
1	body	ASTM A354-CF8M
2	stem	stainless steel (ASTM A276-316)
3	handle nut	stainless steel (AISI 304/1.4301)
4	handle	stainless steel (AISI 304/1.4301), vinyl coated
5	packing gland nut	stainless steel (ASTM A276-316)
6	packing	MPTFE
7	seat	RPTFE
8	ball	stainless steel(ASTM A276-316)
9	sealing element	FKM
10	press end cap	stainless steel(ASTM A351-CF3M, 316L)
11	body bolt	stainless steel (18-8)
12	stem extension	stainless steel (18-8)
13	lockwasher	stainless steel (AISI 304/1.4301)
14	FPT end cap	stainless steel (ASTM A351-CF3M)



maximum pressure		
operating pressure	**test pressure shell**	**test pressure seat**
500 psi (34.5 bar)	750 psi (51.7 bar)	550 psi (37.9 bar)

pressure equipment directive category	
all sizes	SEP

certifications & listings

- IAPMO/ANSI Z1157*

compliant with

- ASTM A312
- ASTM A554
- ASME B31.1, 31.3, 31.9
- MSS SP-110
- IAPMO/ANSI/CAN Z1117 (press ends)

size		item no.	weight [lb]	Cv [gpm]	l1	l2	z1	z2	M1	M2	V	Y	U
½" x FPT½"	(DN10)	123 457 486	1.54	25.4	1.42	2.74	1.67	0.88	0.67	4.90	1.30	1.17	0.87
¾" x FPT¾"	(DN20)	123 457 487	2.16	50.9	1.71	3.05	2.00	1.16	0.67	4.90	1.49	1.17	0.87
1" x FPT1"	(DN25)	123 457 488	3.27	68.2	1.93	3.42	2.22	1.27	0.94	6.15	1.95	1.04	1.31
1½" x FPT1½"	(DN40)	123 457 489	7.39	169.9	2.59	4.28	2.88	1.91	1.25	7.53	2.45	1.53	1.37
2" x FPT2"	(DN50)	123 457 490	12.74	374.6	3.02	4.94	3.31	2.32	1.25	7.53	2.79	1.53	1.37

* IAPMO/ANSI Z1157 applicable to ½"- 1" Apollo® SmartPress 86V 3-piece valve item numbers listed above; for sizes 1½"- 2" requiring IAPMO/ANSI Z1157 approval, please contact Aalberts integrated piping systems technical support team for alternatively approved part numbers (300 psi max. pressure rating, PTFE seat).

limited warranty

scope

Subject to the conditions and limitations in this Limited Warranty, Aalberts integrated piping systems Americas, Inc. ('Aalberts') warrants that Apollo® SmartPress valves and fittings (collectively 'Apollo® SmartPress Products'), when properly installed in the approved applications specifically mentioned below, under normal conditions of use, shall be free of defects in workmanship or material for the applicable warranty period identified below. The terms of this Limited Warranty shall only apply when installation is performed in conformance with the Apollo® SmartPress technical documentation (available at aalberts-ips.us). Additionally, Apollo® SmartPress Products must be installed in accordance with applicable codes and standards, sound pipe fitting practices and in accordance with all local, state, provincial or federal requirements.

This Limited Warranty shall be applicable to Apollo® SmartPress fittings for a period of 10 years from the date of delivery to the original purchaser. This Limited Warranty shall be applicable to Apollo® SmartPress valves for a period of 5 years from the date ofdelivery to the original purchaser.

approved applications

Apollo® SmartPress products can be used in the following applications:

- potable water installations
- heating and cooling installations
- compressed air installations
- solar Installations
- wet and dry sprinkler installations
- steam installations
- vacuum installations

Application approval dependent on suitability of selected product and/or sealing element's performance characteristics and limitations. It is the designer's responsibility to select products suitable for the intended purpose and to ensure that pressure ratings and performance data are not exceeded per Apollo® SmartPress technical documentation (available ataalberts-ips.us).

compatibility

Aalberts warrants the pressed connection of Apollo® SmartPress Products when pressed under the following conditions:

1. Apollo® SmartPress Products must be installed with schedule 5S or 10S stainless steel pipe (AISI type 304/304L or 316/316L) compliant with ASTM A312
2. the selected combination of tools, fittings, valves, and pipe ispermitted by Apollo SmartPress technical documentation validat the time of installation.
3. all other terms of the Limited Warranty, as described in thisdocument have been followed.

terms of the limited warranty

Aalberts warrants that Apollo® SmartPress Products which are delivered to the initial purchaser will be free of defects in workmanship or material. This warranty is for a period of 10 years from the date of delivery of Apollo® SmartPress fittings to the initial purchaser and is for a period of 5 years from thedate of delivery of Apollo® SmartPress valves. Should any failure to conform to this warranty appear within 10 years for Apollo® SmartPress fittings after the date of the initial deliveryto the initial purchaser or within 5 years for Apollo® SmartPress valves after the date of the initial delivery to the initial purchaser, Aalberts will, upon written notification there of and substantiation by Aalberts of the claimed defect and that the Apollo® SmartPress Products have been properly stored, installed, maintained and operated, correct such defects by suitable repair or replacement of the Apollo® SmartPress Products at Aalberts' expense, or inssuance of a credit for the purchase price. This Limited Warranty excludes the expense of removing or replacing any defective Apollo® SmartPress Products, or any other any incidental or consequential labor charges, expenses or other damages or loss.

this warranty is exclusive and is in lieu of any implied warranty of merchantability, fitness for a particular purpose or other warranty of quality, whether expressed or implied, except thewarranty of title and against patent infringement.

Correction of non-conformities, in the manner and for the periodof time provided above, shall constitute fulfillment of all liabilities of Aalberts with respect to the Apollo® SmartPress Products, whether based on contract, negligence, strict tort/ product liability or otherwise.

limitation of liability: Aalberts and any affiliated entity shallnot under any circumstances be liable for special, incidental or consequential damages of any kind such as, but not limited to, damage to or loss of other property or equipment, injury to persons, loss of profits or revenue, cost of capital, cost of replacement goods. the remedies set forth here in are exclusive and the liability of Aalberts and affiliated entities with respect to same shall not exceed the price of the goods upon which suchliability is based.

This Limited Warranty and any claims arising from breach of contract, breach of warranty, tort, or any other claim arising from sale or use of Apollo® SmartPress products shall be governed andconstrued under the laws of the State of North Carolina.

requirements of the installer

The installer is required to:

1. confirm that the application of the Apollo® SmartPress Productsis legal and in accordance with local, state, provincial and federal regulations and codes.
2. install all Apollo® SmartPress Products in compliance with the Apollo® SmartPress technical documentation (available ataalberts-ips.us) and in accordance with all applicable codes and standards, sound pipe fitting practices, and local, state, provincial and federal requirements.
3. take any and all measures necessary in order to mitigate any damage.
4. immediately notify Aalberts in writing when the installer discovers or should have discovered any damage that has occurred, by giving a description of the event which contains the customer name, address, the time and a description of thedamage.
5. give Aalberts the opportunity to, after receiving the notificationof damage, evaluate the damage itself or to have it appraised by an expert.
6. send the Apollo® SmartPress Product that have caused the damage directly to Aalberts for further investigation by Aalberts.
7. except to the extent necessary for immediate mitigation of damages, obtain Aalberts' written permission to remove, repair or otherwise influence or modify the Apollo® SmartPress product.

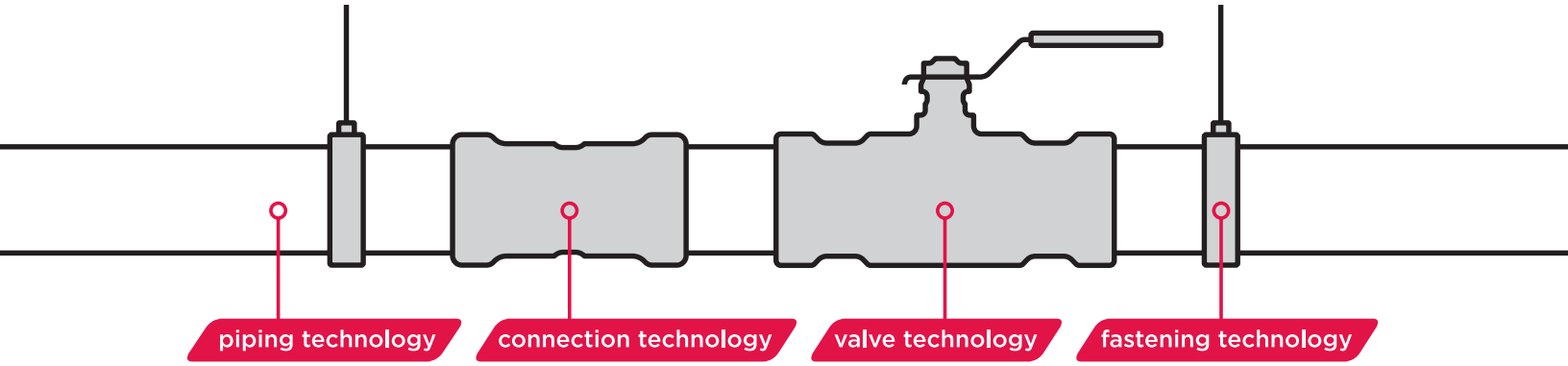
aalberts integrated piping systems

more information?

For a complete and up-to-date product range and our additional services, visit: www.aalberts-ips.us

Would you like to make an appointment to meet an account manager in your region or receive advice and support from one of our experts?
Please contact:

Aalberts integrated piping systems Customer Service
704.841.6000 (US)
905.851.9494 (CAN)



Aalberts integrated piping systems
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