VICTAULIC® MECHANICAL PIPING SOLUTIONS FOR DESALINATION FACILITIES
Victaulic designs and manufactures mechanical pipe joining solutions that engineer confidence into every build. Customers trust our high-quality products and services to increase overall system durability in the most demanding construction projects and operating conditions.

Since 1919, Victaulic’s no-flame, mechanical pipe joining solutions and drawing services have optimized construction productivity and reduced risk, ensuring projects are completed safely, on time and within budget. Driven by a spirit of continuous innovation, Victaulic’s portfolio of 10,000+ products and patented pipe joining and flow control technologies promote freedom of design, safe and efficient jobsites, as well as simplified inspection and maintenance for the life of any project.

With more than 40 international facilities, Victaulic helps customers in over 140 countries succeed in the global construction industry. Our products are found on piping systems within the largest and most complex commercial buildings and industrial environments such as oil and gas, chemical, mining, power generation, water and wastewater treatment, military and marine. Learn more about how our innovative piping products and design services can engineer confidence into your build at www.victaulic.com.

THAT’S HOW WE ARE ENGINEERING CONFIDENCE INTO EVERY BUILD.
STRENGTHIN™ COUPLINGS FEATURE THE VICTAULIC PROPRIETARY GRADE “EW” EPDM GASKET.

Grade “EW” EPDM is WRAS certified with approved microbiological resistance to BS 6920 for cold and hot potable water service up to +149°F | +65°C.

Groove profile is optimized for strength, rigidity and sealing.

Direct pipe end preparation of Schedule 10S or Schedule 20 super austenitic, duplex, super duplex stainless steel.

Coating – A multi-layer, multi-functional coating providing impact and long term corrosion resistance.

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Piping systems with Victaulic grooved products feature a 40–60 percent reduction in installation man-hours over alternative joining methods, and leverage a worker skill base that can be quickly trained and globally available, greatly reducing the potential for schedule delays.

Innovations, like our grooved system for high pressure stainless steel systems result in quicker and less costly installations, reducing exposure to jobsite accidents and overall man hours.
VICTAULIC® GROVED END PIPING SYSTEMS PROVIDE:

**Easy system maintenance and expansion** – through simple coupling disassembly that allows for easy access.

**Alignment ease** – through a design that allows for full rotation of the pipe and system components before tightening.

**Flexibility or Rigidity** – with the inherent axial movement and deflection properties of flexible couplings in a groove system. May be used to accommodate pipeline thermal expansion and contraction, misalignment and settlement, and seismic stress absorption. Alternatively, rigid couplings can provide weld-like rigidity.

**Noise and vibration attenuation** – by isolating the transference of vibration at each joint.

**Self restrained pipe joints** – Couplings engage the pipe grooves to hold the pipes against full pressure thrust loads without the need of supplemental restraints.
VICTAULIC® PRODUCTS FOR DESALINATION APPLICATIONS
Type 316 Rigid Coupling
STYLE 489

Download publication 17.25 for complete information

- Greatly reduces linear or angular movement and is useful for valve connections where rigidity is required
- Designed for use with fittings and valves featuring Victaulic Original Groove System (OGS) grooved ends for fast installation
- Sizes from 1½ – 12” | DN40 – DN300
- Pressures up to 600 psi | 4137 kPa | 41 bar

Duplex Rigid Coupling
STYLE 489DX

Download publication 17.33 for complete information

- Greatly reduces linear or angular movement and is useful for valve connections where rigidity is required
- Designed for use with fittings and valves featuring Victaulic Original Groove System (OGS) grooved ends for fast installation
- Sizes from 2 – 12” | DN50 – DN300
- Pressures up to 1200 psi | 8274 kPa | 83 bar
- Optional super duplex stainless steel housing

StrengThin™ High-Pressure Rigid Coupling
STYLE D08

Download publication 17.30 for complete information

- Designed to accommodate high pressure weld-like load carrying capabilities on stainless steel systems
- High strength groove designed to provide increased performance on thin wall super austenitic, duplex and super duplex stainless steel pipe
- Exclusively for use on pipe which feature ends formed with the Victaulic proprietary StrengThin groove profile
- Sizes from 2 – 20” | DN50 – DN500
- Pressures up to 1200 psi | 8274 kPa | 83 bar
Type 316 Flexible Coupling
STYLE 77S

Download publication 17.03 for complete information

- Provides a rugged mechanical joint for grooved end stainless steel piping systems
- Designed for use with fittings and valves featuring Victaulic Original Groove System (OGS) grooved ends for fast installation
- Sizes from 8 – 18” | DN200 – DN450
- Pressures up to 300 psi | 2068 kPa | 21 bar

Duplex Flexible Coupling
STYLE 77DX

Download publication 17.20 for complete information

- Designed to provide a rugged mechanical joint for roll grooved stainless steel systems
- Designed for use with fittings and valves featuring Victaulic Original Groove System (OGS) grooved ends for fast installation
- Sizes from ¾ – 6” | DN20 – DN150
- Pressures up to 1200 psi | 8274 kPa | 83 bar
- Optional super duplex stainless steel housing

Type 316 Lightweight Flexible Coupling
STYLE 475

Download publication 17.14 for complete information

- Designed to provide a flexible mechanical joint for grooved end stainless steel piping systems
- Designed for use with fittings and valves featuring Victaulic Original Groove System (OGS) grooved ends for fast installation
- Sizes from 1 – 4” | DN25 – 165.1 mm
- Pressures up to 500 psi | 3447 kPa | 34 bar
**Duplex Lightweight Flexible Coupling**

**STYLE 475DX**

*Download publication 17.34 for complete information*

- Unique coupling design permits assembly by removing one nut/bolt and scissoring housing over gasket.
- Designed for use with fittings and valves featuring *Victaulic* Original Groove System (OGS) grooved ends for fast installation.
- Sizes from 1 – 4” | DN25 – DN100
- Pressures up to 500 psi | 3447 kPa | 34 bar
- Optional super duplex stainless steel housing.

**Composite Flexible Coupling**

**STYLE 171**

*Download publication 06.22 for complete information*

- Flexible pipe joint which allows for expansion, contraction and deflection.
- For corrosive applications such as reverse osmosis systems.
- For use on PVC pipe utilizing *Victaulic* OGS roll or cut groove profile.
- Sizes from 1½ – 4” | DN40 – DN100
- Pressures up to 150 psi | 1034 kPa | 10 bar
- For stainless steel and FRP applications, contact *Victaulic*.

**Duplex Plug Valve**

**SERIES 465**

*Download publication 17.36 for complete information*

- Typically used in reverse osmosis desalination plants for on/off and control services.
- Available without operator or with manual, pneumatic, hydraulic and electric actuators.
- Available for use with pipe which features ends formed with either the *Victaulic* proprietary StrengThin™ groove profile or *Victaulic* Original Groove System (OGS) profile, specify when ordering.
- Sizes from 2 – 20” | DN50 – DN500
- Pressures up to 1450 psi | 9997 kPa | 100 bar.

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**Duplex Plug Valve**

SERIES 466

*Download publication 17.39 for complete information*

- Typically used in reverse osmosis desalination plants for on/off and control services or in submerged applications
- Available for use with pipe which features ends formed with either the *Victaulic* proprietary StrengThin™ groove profile or *Victaulic* Original Groove System (OGS) profile, specify when ordering
- Sizes from 10 – 24" | DN250 – DN600
- Pressures up to 1200 psi | 8274 kPa | 83 bar

**Duplex Double Disc Check Valve**

SERIES 415

*Download publication 17.37 for complete information*

- Designed for use with pipe which features ends formed with either the *Victaulic* proprietary StrengThin groove profile or *Victaulic* Original Groove System (OGS) profile, specify when ordering
- Sizes from 2 – 18" | DN50 – DN450
- Pressures up to 1200 psi | 8274 kPa | 83 bar

**Type 316 *Vic-Ball* Valve**

SERIES 726S

*Download publication 17.22 for complete information*

- High pressure Type 316 stainless steel standard port ball valve with *Victaulic* Original Groove System (OGS) grooved ends
- Sizes from 1½ – 6" | DN40 – DN150
- Pressures up to 1000 psi | 6895 kPa | 69 bar
Super Duplex *Vic-Ball* Valve

**SERIES 726D**

*Download publication 17.28 for complete information*

- High pressure super duplex stainless steel standard port ball valve with *Vicatulic* Original Groove System (OGS) grooved ends
- Sizes from 2–6” | DN50–DN150
- Pressures up to 1200 psi | 8274 kPa | 83 bar

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**StrengThin™ High-Pressure Fittings**

*Download publication 17.32 for complete information*

- Designed for use on high pressure stainless steel piping systems
- Exclusively for use on pipe which feature ends formed with the *Vicatulic* proprietary StrengThin groove profile
- Sizes from 2–20” | DN50–DN500
- Pressures up to 1200 psi | 8274 kPa | 83 bar

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**No. 401DX**
- 90° Elbow

**No. 403DX**
- 45° Elbow

**No. 402DX**
- Tee

**No. 405DX**
- Reducing Tee

**No. 404DX**
- Concentric Reducer

**No. 406DX**
- Cap
ANSI Schedule 10S Fittings

Download publication 17.16 for complete information

- Grooved ends eliminate pipe end preparation for the fittings
- Designed for use with couplings featuring Victaulic Original Groove System (OGS) grooved ends for fast installation
- Sizes from ¾ – 12" | DN20 – DN300
- Available in Type 304L or 316L
- Download publication 17.27 for stainless steel flange options

Victaulic® Mechanical Piping Solutions for Desalination Facilities

No. 410 SS
90° Elbow

No. 411 SS
45° Elbow

No. 412 SS
22½° Elbow

No. 413 SS
11¼° Elbow

No. 420 SS
Tee

No. 425 SS
Grooved Branch Reducing Tee

No. 430 SS
45° Lateral

No. 433 SS
True Wye

No. 435 SS
Cross

No. 442 SS
Adapter Nipple (Groove × Bevel)

No. 443 SS
Adapter Nipple (Groove × Groove)

No. 450 SS
Concentric Reducer

No. 451 SS
Eccentric Reducer

No. 460 SS
Cap

No. 441N
Flanged Adapter Nipple (EMEA-I Only)

No. 445F
Flat Face Flanged Adapter Nipple

No. 445R
Raised Face Flanged Adapter Nipple
ANSI Schedule 40S Fittings

Download publication 17.16 for complete information

- Grooved ends eliminate pipe end preparation for the fittings
- Designed for use with couplings featuring Victaulic Original Groove System (OGS) grooved ends for fast installation
- Sizes from ¾ – 12” | DN20 – DN300
- Available in Type 304L or 316L
- Designed for higher pressure systems
- Download publication 17.27 for stainless steel flange options
Southern Sea Water Authority Perth 2, is a desalination plant supporting the greater Perth Region of Western Australia. This 50 million gallon per day desalination plant was facing imposing deadlines with a mandate to produce water on an extremely tight construction schedule.
With SSWA looking to reduce overall project labor, schedule and cost, Victaulic proposed drawings supplied by Victaulic Construction Piping Services which presented conversions of welded and flanged joints and valve assemblies to Victaulic grooved piping solutions, including the StrengThin™ System for high pressure on thin-wall super duplex stainless steel piping.

The rapid field assembly of the StrengThin system and Victaulic high pressure plug valves dramatically reduced field man-hours and schedule impact. For example, total field installation time for a complete 16” | DN400 valve assembly was reduced from 2½ days to 10 minutes.

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