



## GRINNELL Mechanical Products Figure 405 Flexible Coupling — Stainless Steel

### General Description

The Figure 405 Flexible Coupling is a Stainless Steel coupling made of ASTM A-743/A743M cast stainless steel which is the cast equivalent to 316 Stainless Steel. It is designed for installation on Stainless Steel schedule 5, 10, and 40 pipe and fittings. The stainless steel material is suitable for a variety of aggressive corrosive environments. The Figure 405 flexible coupling can accommodate some angular, rotational and axial pipe movement. The Figure 405 Flexible Coupling is a proven dependable method of joining pipe and is an economical alternative to welding, threading or using flanges. It is capable of pressures up to 750 psi (41,4 bar) depending on pipe size and wall thickness. For additional information on pressure ratings see data sheets G810 and G815.

#### NOTICE

*The Figure 405 Flexible Coupling described herein must be installed and maintained in compliance with this document, in addition to the standards of any other authorities having jurisdiction. Failure to do so may result in serious personal injury or impair the performance of these devices.*

*Never remove any piping component nor correct or modify any piping deficiencies without first de-pressurizing and draining the system. Failure to do so may result in serious personal injury, property damage, and/or impaired device performance.*

*It is the designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data are not exceeded. Material and gasket selection should be verified for compatibility with the specific application. Always read and understand the installation instructions.*

*The owner is responsible for maintaining their mechanical system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.*

### Technical Data

#### Sizes

1 to 8 Inches (DN32 to DN200)

#### ⚠ CAUTION

*Pressure performance values shown for GRINNELL couplings on light-wall (Sch. 5 and Sch. 10) stainless steel pipe are dependent on the use of the required special roll for roll grooving light-wall stainless steel pipe. Failure to utilize the required special roll for roll grooving light-wall stainless steel pipe may result in equipment failure.*

#### Maximum Pressure

See Figure 1

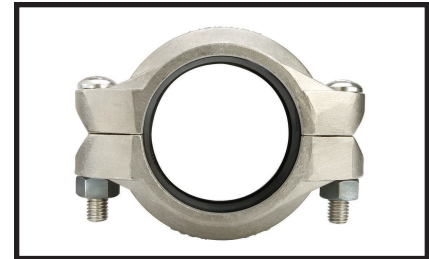
#### Housing

Type 316 Stainless Steel conforming to ASTM A-743/A-743M Grade CF8M - Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application.

#### Bolt/Nuts

Stainless Steel bolts are Type 316 conforming to ASTM A-193M Class 2, Grade B8M.

Stainless Steel nuts are Type 316 hex nuts conforming to ASTM A-194M, Grade 8M.



For warranty terms and conditions, visit [www.grinnell.com](http://www.grinnell.com)

#### Gasket

(specify when ordering)

Grade "E" EPDM  
Green Color Code  
-30°F to 230°F (-34°C to 110°C)

Tri-Seal Grade "E" EPDM  
Green Color Code  
-30°F to 230°F (-34°C to 110°C)

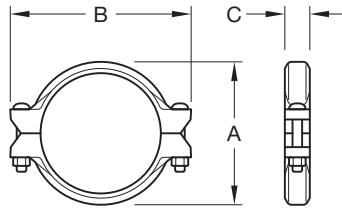
Tri-Seal Grade "EN" EPDM  
Copper Color Code  
+86°F to 180°F (30°C to 82°C)

Grade "T" Nitrile  
Orange Color Code  
-20°F to 180°F (-29°C to 82°C)

Grade "O" Fluoroelastomer  
Blue Color Code  
20°F to 300°F (-7°C to 149°C)

Grade "L" Silicone  
Red Gasket  
-30°F to 350°F (-34°C to 177°C)

(Refer to Technical Data Sheet G610 for aid in selecting proper gasket.)



Pipe Size		Max. <sup>b</sup> Pressures psi bar	Max. <sup>b</sup> End Load Lbs. kN	End Gap <sup>a</sup> Inches mm	Deflection <sup>c</sup>		Nominal Dimensions			Coupling Bolts		Approx. Weight Lbs. kg
Nominal ANSI Inches DN	O.D. Inches mm				Degrees per coupling	Inches/Foot mm/m	A Inches mm	B Inches mm	C Inches mm	Qty.	Size Inches mm	
1 25	1.315 33,4	750 51,7	1,019 4,5	0.13 3,3	5° 26'	0.90 95,1	2.20 56,0	3.82 97,0	1.81 46,0	2	3/8 x 2-1/4 M10 x 57	1.5 0,6
1-1/4 32	1.660 42,4	750 51,7	1,623 7,2	0.13 3,3	4° 19'	0.90 75,0	2.56 65,0	4.19 106,4	1.81 46,0	2	3/8 x 2-1/4 M10 x 57	1.5 0,7
1-1/2 40	1.900 48,3	750 51,7	2,127 9,5	0.13 3,3	3° 46'	0.79 65,8	2.75 69,9	4.44 112,8	1.81 46,0	2	3/8 x 2-1/4 M10 x 57	1.6 0,7
2 50	2.375 60,3	500 34,5	2,215 9,9	0.13 3,3	3° 1'	0.63 52,5	3.25 82,6	4.88 124,0	1.88 47,8	2	3/8 x 2-1/4 M10 x 57	1.7 0,8
2-1/2 65	2.875 73,0	500 34,5	3,246 14,4	0.13 3,3	2° 29'	0.52 43,3	3.69 93,7	5.50 139,7	1.88 47,8	2	3/8 x 2-1/4 M10 x 57	2.0 0,9
- 65	3.000 76,1	500 34,5	3,534 15,7	0.13 3,3	2° 23'	0.50 41,7	4.00 101,6	5.75 146,1	1.88 47,8	2	- M12 x 76	3.1 1,4
3 80	3.500 88,9	500 34,5	4,810 21,4	0.13 3,3	2° 3'	0.43 35,8	4.38 111,3	6.50 165,1	1.88 47,8	2	1/2 x 3 M12 x 76	3.1 1,4
4 100	4.500 114,3	500 34,5	7,952 35,3	0.25 6,4	3° 11'	0.67 55,8	5.69 144,5	7.75 196,9	2.06 52,3	2	1/2 x 3 M12 x 76	4.0 1,8
- 125	5.500 139,7	450 31,0	10,691 47,6	0.25 6,4	2° 36'	0.55 45,5	6.81 173,0	9.75 247,7	2.06 52,3	2	- M16 x 83	7.2 3,3
5 125	5.563 141,3	450 31,0	10,933 48,7	0.25 6,4	2° 35'	0.54 45,0	6.88 174,8	9.75 247,7	2.06 52,3	2	5/8 x 3-1/4 M16 x 83	7.1 3,2
6 150	6.625 168,3	450 31,0	15,512 69,0	0.25 6,4	2° 10'	0.45 37,5	7.94 201,7	10.69 271,5	2.06 52,3	2	5/8 x 3-1/4 M16 x 83	7.1 3,2
8 200	8.625 219,1	450 31,0	29,261 117	0.25 6,4	1° 40'	0.35 29,2	10.19 258,8	13.56 344,4	2.50 63,5	2	3/4 x 4-3/4 M20 x 121	14.5 6,6

a. Nominal gap between pipe ends. Minimum gap = 0.

b. Maximum pressure and end load are total from all loads based on standard weight stainless steel pipe. Pressure ratings and end loads may differ for other pipe materials and/or wall thickness. Stainless Steel pipe must be grooved with rollers specifically designed for Stainless Steel pipe. Contact Tyco Fire Protection Products for details.

c. Deflection is for cut groove pipe. Valves for roll groove are 1/2 that of cut groove.

**FIGURE 1**  
**FIGURE 405 FLEXIBLE COUPLING**  
**NOMINAL DIMENSIONS**

## Ordering Procedure

Grinnell Mechanical Products, valves, accessories and other products are available globally through a network of distribution centers. For the nearest distributor, visit [www.grinnell.com](http://www.grinnell.com). When placing an order, indicate the full product name.

Specify: Figure 405 Flexible Coupling, quantity, pipe size, (ANSI inch size or pipe O.D.), and type of gasket:

- Grade “E” EPDM
- Grade “E” EPDM Tri-Seal
- Grade “EN” EPDM
- Grade “T” Nitrile
- Grade “O” Fluoroelastomer
- Grade “L” Silicone