# **NARVIK-YARWAY** MODEL 36/56 SAMPLING VALVES

For use in chemical- and process systems, specifically designed for media with high viscosity and crystal or hard particles

## FEATURES

- Robust body design, increases operational safety
- Simple construction, internals are quickly accessible, maintenance is easy
- Suitable for pneumatic operation, makes automation of sampling processes possible
- Wide choice of end connections, valve easily adaptable to your system
- Self cleaning operation of the plunger ensures no residual build-up
- Reverse direction for injection of reagents or fluids into the process
- Seatless design
- Bubble tight sealing up to 64 bar
- Spring loaded seal rings

## GENERAL APPLICATIONS

Industries handling products that tend to polymerize, crystallize, form crusts or sediments or for the containment of hazardous fluids.
Particularly suitable for handling of resins, paints, bitumen, plastics, waxes, acids and PVC, or handling fluids of a toxic nature, where sealing of the highest integrity is vital.
Also suitable for various powder applications.

## TECHNICAL DATA

| | |
|---|---|
| Size (NPS): | ½ - 1 |
| Pressure (bar): | vacuum / PN 25-PN 64 |
| Temperature (°C): | up to 400°C |
| Flow port: | 14 mm |
| Inlet flow port ¾": | 14 mm |
| Inlet flow port 1½": | 25 mm |

**Note**
Model 56 equal to old Figure no 8103 of Yarway / Keystone.


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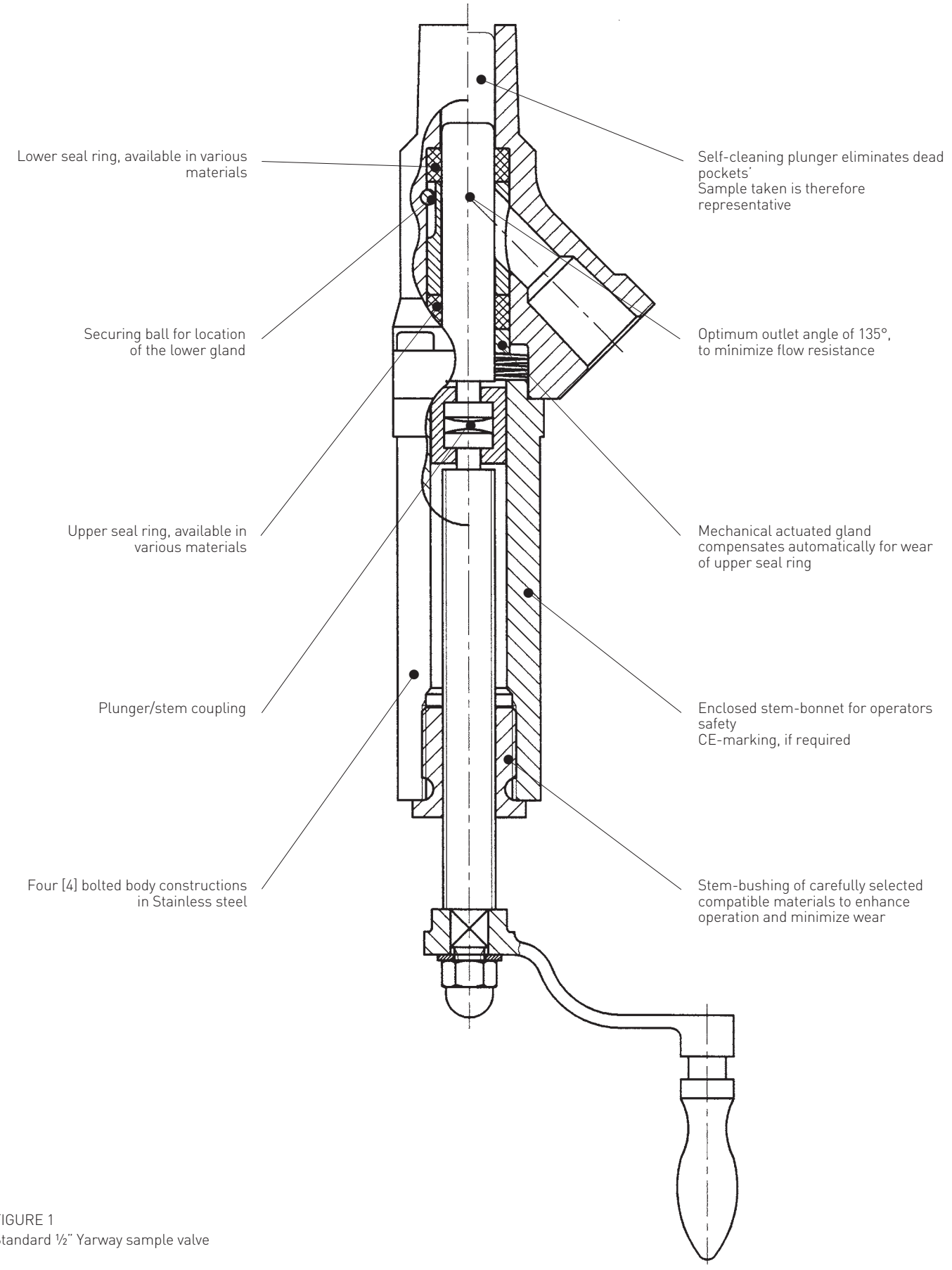



FIGURE 1
Standard ½" Yarway sample valve

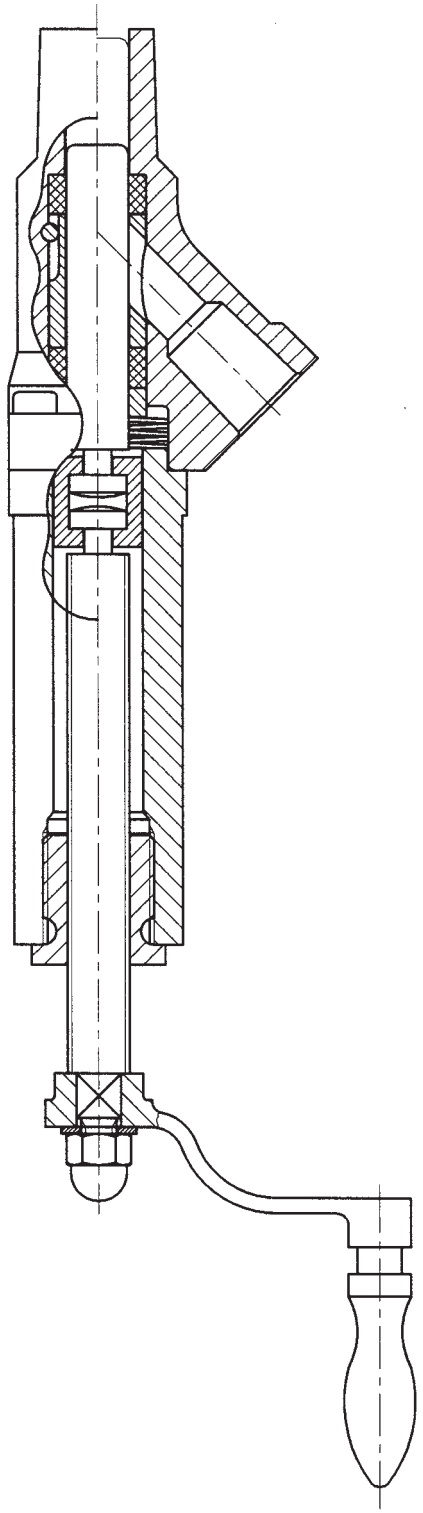


FIGURE 2
½" Yarway Model 56 sample valve
• Bolted bonnet
• Sealing compression by Belleville washers
• Hand crank operation

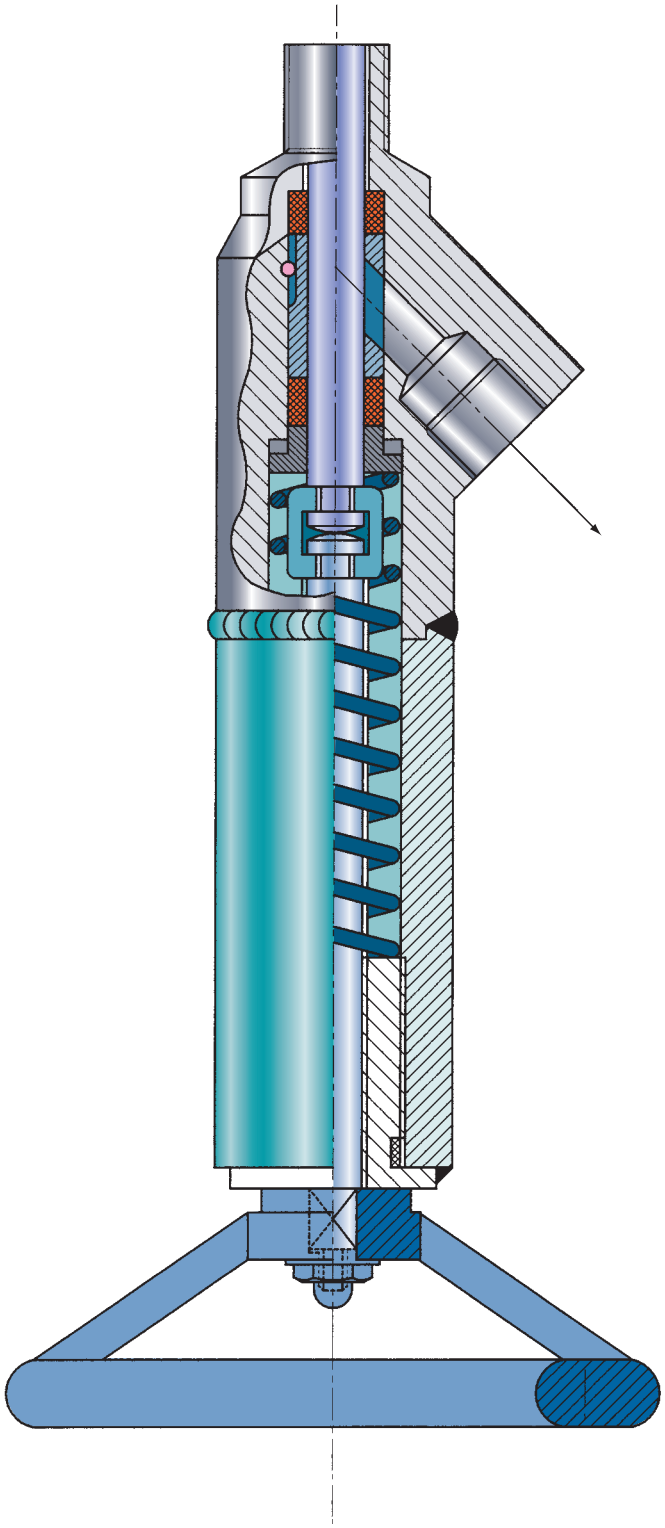
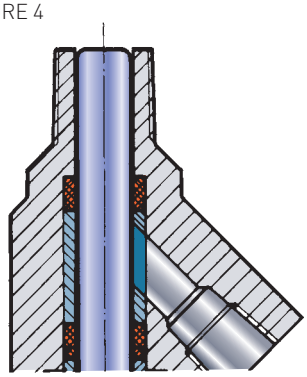


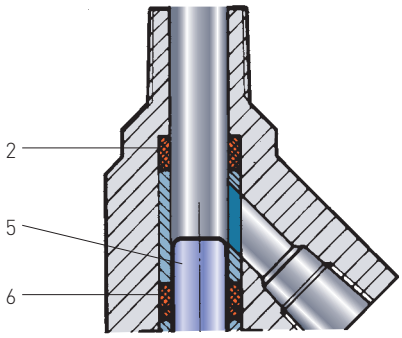
FIGURE 3
1" Narvik Model 36 sample valve
• Welded bonnet
• Sealing compression by coil spring
• Handwheel operation

FIGURE 4



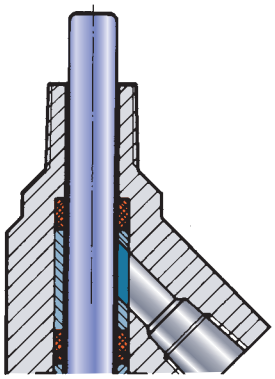
Flush with inlet

FIGURE 5




Fully open

FIGURE 6



Ramming through

## PRESSURE/TEMPERATURE RANGE

The valves are designed to meet ASME/ANSI B16.34, class 150 and 300 or ISO 7005 class PN 25 to 40. Service temperature depends on the seal ring material
- Virgin PTFE: 220°C
- PTFE, glass reinforced: 250°C
- Graphoil: 400°C
- Other materials upon request

**Technical data**

| | |
|---|---|
| - PTFE, Graphoil: | Seal ring material (PTFE: max. 220°C; Graphoil: max. 400°C) |
| - Testing: | in accordance with EN 12266-1 |
| - Hydrostatic test: | at 94.0 bar |
| - Leakage test: | at 64.0 bar |

## PRINCIPLE OF OPERATION

The design incorporates a plunger with peripheral sealing rings and sliding glands resulting in a jamming set free sealing.
The plunger is retracted/extended directly by the valve stem and can be operated manually or with pneumatic cylinder. A coupling between the stem and plunger eliminates rotation of the plunger during operation. This linear movement reduces emission and guarantees an extended lifetime.
The standard plunger is flush with the inlet in closed position. When the plunger is retracted, it gradually uncovers the discharge port. An extended plunger can be supplied for crushing any sediment above the valve inlet.

FIGURE 7

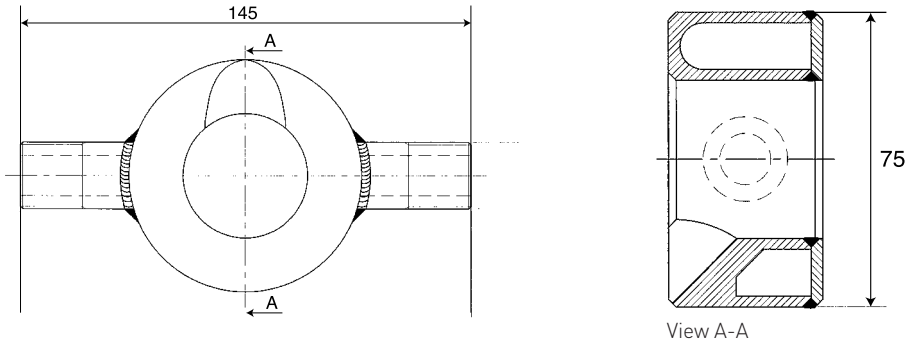



**TABLE 1 - STANDARD YARWAY SAMPLE VALVE WITH PTFE SEAL**

| Inlet description | Outlet description | Extension R | Pentair part number |
|---|---|---|---|
| ¾" NPT male | ½" NPT female | 0"/0 mm | YNSY6A101EP00N0 |
| ¾" NPT male | ½" NPT female | 2"/50 mm | YNSY6A141EP50N0 |
| ¾" BSPT male | ½" BSPT female | 0"/0 mm | YNSY6A111BP00N0 |
| ¾" BSPT male | ½" BSPT female | 2"/50 mm | YNSY6A151BP50N0 |

**TABLE 1.1 - STANDARD YARWAY SAMPLE VALVE WITH GRAPHOIL SEAL**

| Inlet description | Outlet description | Extension R | Pentair part number |
|---|---|---|---|
| ¾" NPT male | ½" NPT female | 0"/0 mm | YNSY6A121EG00N0 |
| ¾" NPT male | ½" NPT female | 2"/50 mm | YNSY6A161BG50N0 |
| ¾" BSPT male | ½" BSPT female | 0"/0 mm | YNSY6A131EG00N0 |
| ¾" BSPT male | ½" BSPT female | 2"/50 mm | YNSY6A171BG50N0 |

**TABLE 2 - STANDARD NARVIK SAMPLE VALVE WITH PTFE SEAL**

| Inlet description | Outlet description | Extension R | Pentair part number |
|---|---|---|---|
| ¾" NPT male | ½" NPT female | 0"/"/0 mm | YNSN6AN33EP00N0 |
| ¾" NPT male | ½" NPT female | 2"/50 mm | YNSN6AN33EP50N0 |
| ¾" BSPT male | ½" BSPT female | 0"/0 mm | YNSN6AN33BP00N0 |
| ¾" BSPT male | ½" BSPT female | 2"/50 mm | YNSN6AN33BP50N0 |
| ¾" Flanged (DN 20) | ½" NPT female | 0"/0 mm | YNSN6AN33OP00N0 |
| ¾" Flanged (DN 20) | ½" NPT female | 2"/50 mm | YNSN6AN33OP50N0 |
| ¾" Flanged (DN 20) | ½" BSPT female | 0"/0 mm | YNSN6AN33NP00N0 |
| ¾" Flanged (DN 20) | ½" BSPT female | 2"/50 mm | YNSN6AN33NP50N0 |
| 1" Flanged (DN 25) | 1" Flanged (DN 25) | 0"/0 mm | YNSN6AN33KP00N0 |
| 1" Flanged (DN 25) | 1" Flanged (DN 25) | 2"/50 mm | YNSN6AN33KP50N0 |
| 1½" NPT male | 1" NPT female | 0"/0 mm | YNSN6AN33FP00N0 |
| 1½" NPT male | 1" NPT female | 2"/50 mm | YNSN6AN33FP50N0 |
| 1½" BSPT male | 1" BSPT female | 0"/0 mm | YNSN6AN33CP00N0 |
| 1½" BSPT male | 1" BSPT female | 2"/50 mm | YNSN6AN33CP50N0 |

## SPECIAL OPTIONS

- Modular Stainless steel steam jackets for handling of temperature sensitive fluids (see fig. 8) (max. 300°C at 10 bar; material: A182 F316 L)
- NPT, BSPT or flanged purge connection, upon request
- Special materials such as Hastelloy, other options available on request.
- Plunger extension up to 50 mm (2") standard, longer upon request
- Half couplings in various sizes/materials, special options upon request
- Pneumatic operation (see further on)
- Electric or mechanical position indicators
- Sampling bottle holders and enclosures upon request (see further on)

**TABLE 3 - STANDARD MATERIALS**

| Item | Name | Material | Equivalent |
|---|---|---|---|
| 1 | Body | (316Nb) | 1.4581 |
| 2 * • | Lower seal | PTFE | PTFE |
| 3 • | Securing ball | St. Steel | St. Steel |
| 4 | Lower gland | A182 F316L | 1.4404 |
| 5 • | Plunger | A182 F316L | 1.4404 |
| 6 * • | Upper seal | PTFE | PTFE |
| 7 | Upper gland | A182 F316L | 1.4404 |
| 8 • | Belleville washers | 50 CrV 4 | 50 CrV 4 |
| 9 | Coupling | AISI 410 | 1.4006 |
| 10 • | Stem | AISI 410 | 1.4006 |
| 11 | Bonnet | A351 CF8 | 1.4308 |
| 12 • | Stem bushing | GGG60 zinc plated | GGG60 zinc plated |
| 13 | Crank | C.Steel zinc plated | C.Steel zinc plated |
| 14 | Washer | St. steel | St. steel |
| 15 | Cap nut | St. steel | St. steel |
| 16 | Handle | C.Steel zinc plated | C.Steel zinc plated |

* Other materials upon request
• Recommended spare parts
Certified drawings upon request
Weight: 1.8 kg

**TABLE 4 - DIMENSIONS (mm)**

| R | A | B | C | D | E |
|---|---|---|---|---|---|
| 0 | 271 | 60 | 45.5 | 55 | 60 |
| 50 | 321 | 110 | 45.5 | 55 | 60 |

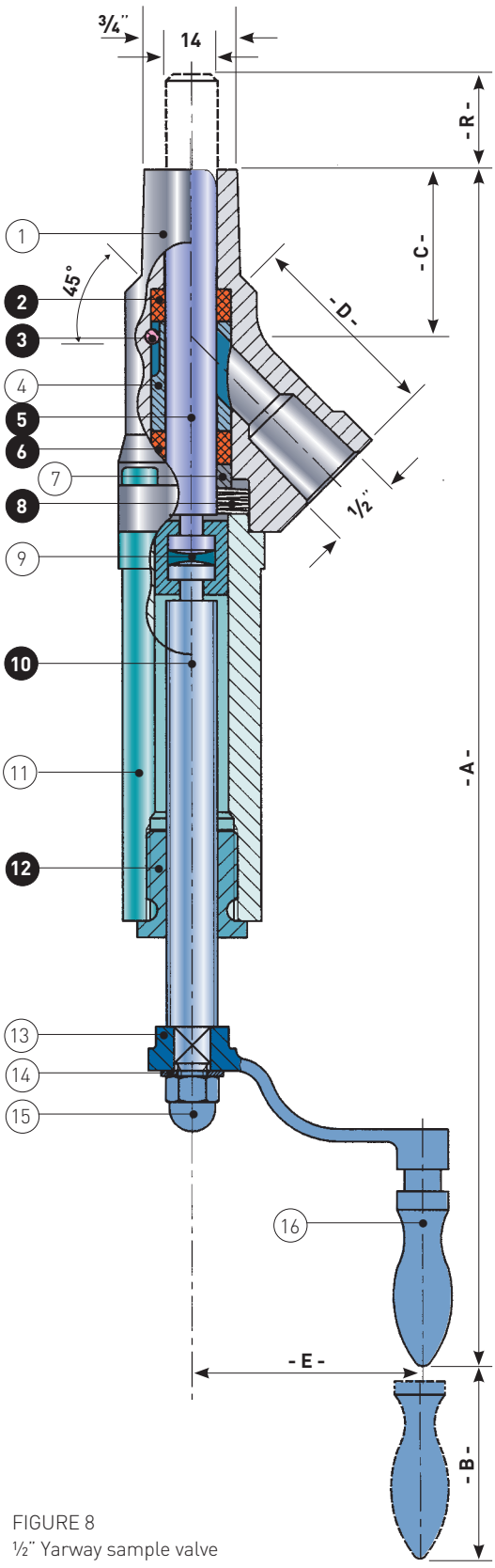



FIGURE 8
½" Yarway sample valve

**TABLE 5 - STANDARD MATERIALS**

| Item | Name | Material | Equivalent |
|---|---|---|---|
| 1 | Body | A351 CF8M | 1.4408 |
| 2 * • | Lower seal | PTFE | PTFE |
| 3 • | Securing ball | St. steel | St. steel |
| 4 | Lower gland | A182 F316L | 1.4404 |
| 5 • | Plunger | A182 F316L | 1.4404 |
| 6 * • | Upper seal | PTFE | PTFE |
| 7 | Upper gland | A182 F316L | 1.4404 |
| 8 | Helical spring | - | 1.1200 |
| 9 ** | Coupling | AISI 630 | 1.4542 |
| 10 • | Stem | AISI 420 | 1.4021 |
| 11 | Bonnet | A351 CF8M | 1.4408 |
| 12 • | Stem bushing | GGG60 zinc plated | GGG60 zinc plated |
| 13 | Handwheel | Aluminium | Aluminium |
| 14 | Washer | St. steel | St. steel |
| 15 | Cap nut | St. steel | St. steel |

* Other materials upon request
** For Copper-free environments, material 1.4005
• Recommended spare parts
Certified drawings upon request
Weight: 6.5 kg

**TABLE 6 - DIMENSIONS (mm)**

| R | A | B | C | D | E |
|---|---|---|---|---|---|
| 0 | 375 | 105 | 40 | 110 | 75 |
| 50 | 375 | 155 | 40 | 110 | 75 |

Narvik ¾" x ½" crank operated (model 16)
complete with position indicator

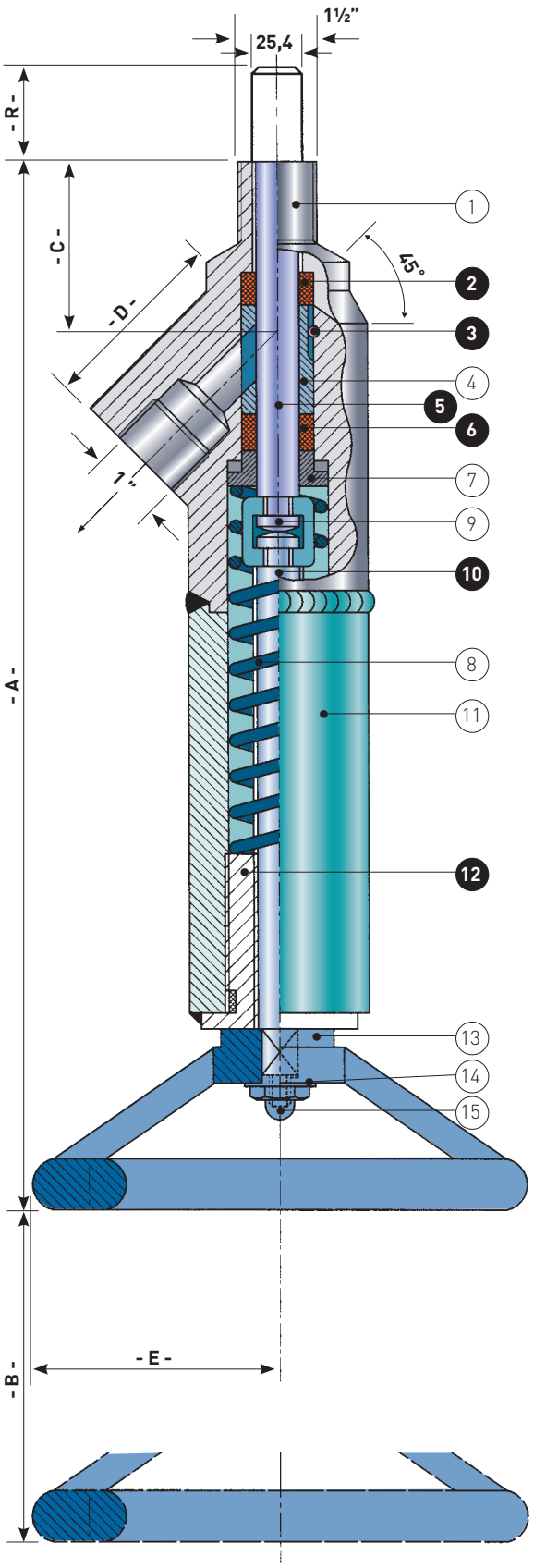



FIGURE 9
1" Narvik sample valve

**TABLE 7 - STANDARD MATERIALS**

| Item | Name | Material | Equivalent |
|---|---|---|---|
| 1 | Body | (316Nb) | 1.4581 |
| 2 * • | Lower seal | PTFE | PTFE |
| 3 • | Securing ball | St. Steel | St. Steel |
| 4 | Lower gland | A182 F316L | 1.4404 |
| 5 • | Plunger | A182 F316L | 1.4404 |
| 6 * • | Upper seal | PTFE | PTFE |
| 7 | Upper gland | A182 F316L | 1.4404 |
| 8 • | Belleville washers | 50 CrV 4 | 50 CrV4 |
| 9 | Coupling | AISI 410 | 1.4008 |
| 10 • | Stem | AISI 410 | 1.4008 |
| 11 | Bonnet | A351 CF8 | 1.4308 |
| 16 | Adaptor | | |
| 17 ** | Air cylinder | "Sempress" | Double act |
| 18 | O-rings | Rubber | Rubber |
| 19 | Piston rod | St. Steel | 1.4104 |
| 20 | Cylinder | Aluminium | Aluminium |
| 21 | Guiding | Synthetic | Synthetic |

* Other materials upon request
** Max. air supply: 10 bar,
Pneumatic connection: G ⅜",
Spring return, upon request
• Recommended spare parts
Certified drawings upon request
Weight: 5.3 kg

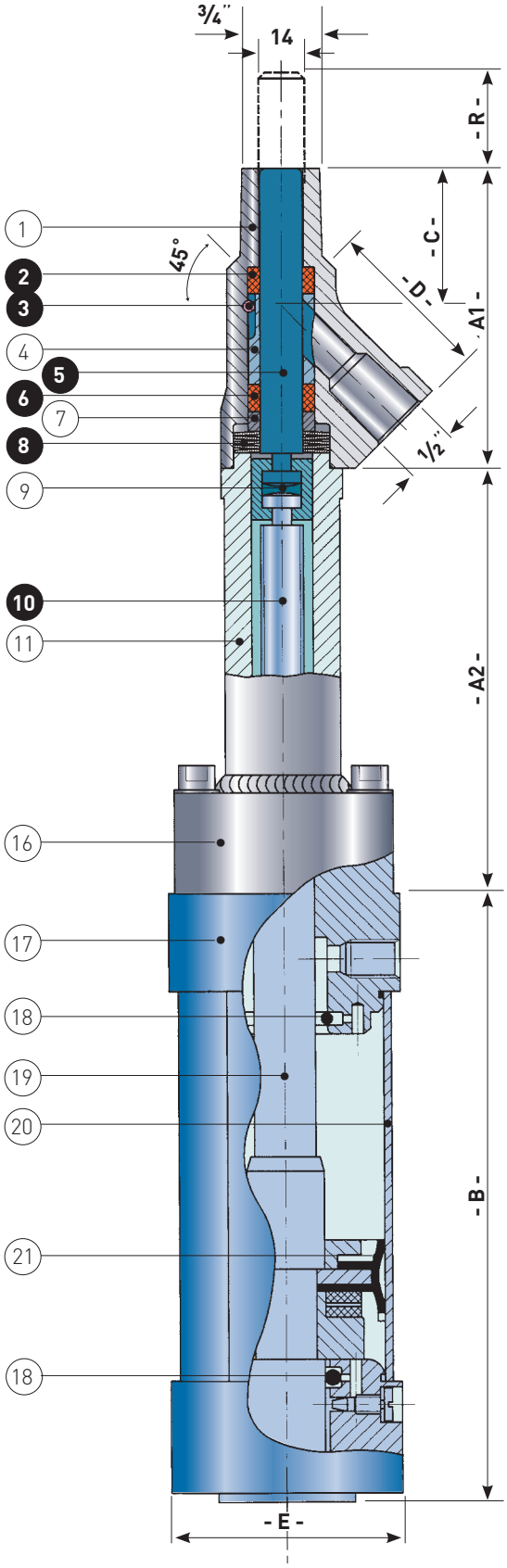



FIGURE 10
½" Yarway sample valve with air cylinder

**TABLE 8 - DIMENSIONS (mm)**

| R | A1 | A2 | B | C | D | E |
|---|---|---|---|---|---|---|
| 0 | 99 | 143 | 224 | 45.5 | 55 | 76 |
| 50 | 99 | 0 | 0 | 45.5 | 55 | |

## ACTUATION

- Pneumatic, single acting spring return air cylinder
- Pneumatic, double acting air cylinder (see fig. 8)
- Failsafe air systems are available upon request

**NOTE**
The pneumatic air cylinders operate with an air supply of 5 bar minimum.

Yarway sample valve with extended plunger, single acting pneumatic actuator, fail position "close".

# **NARVIK-YARWAY** MODEL 36/56 SAMPLING VALVES

## YARWAY MODEL 56 WITH BOTTLE HOLDER

FIGURE 11
½" Yarway sample valve with bottle holder

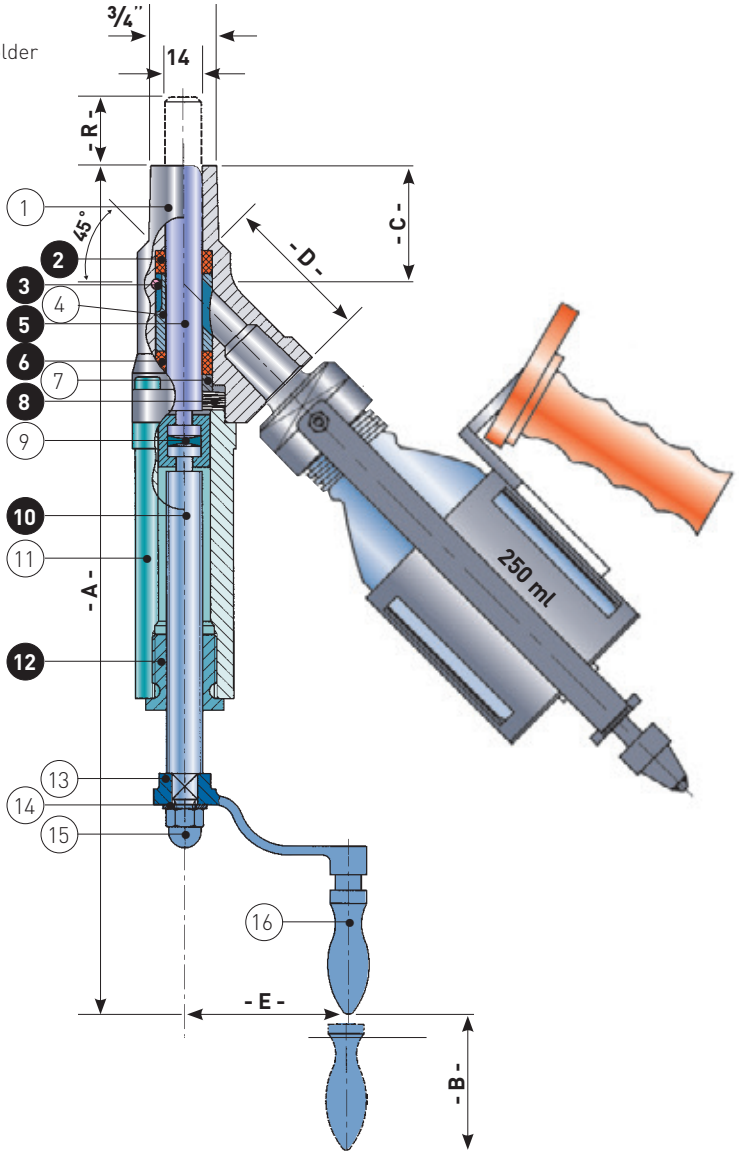



**TABLE 9 - STANDARD MATERIALS**

| Item | Name | Material | Equivalent |
|---|---|---|---|
| 1 | Body | (316Nb) | 1.4581 |
| 2 * • | Lower seal | PTFE | PTFE |
| 3 • | Securing ball | St. steel | St. steel |
| 4 | Lower gland | A182 F316L | 1.4404 |
| 5 • | Plunger | A182 F316L | 1.4404 |
| 6 * • | Upper seal | PTFE | PTFE |
| 7 | Upper gland | A182 F316L | 1.4404 |
| 8 • | Belleville washers | 50 CrV 4 | 50 CrV4 |
| 9 | Coupling | AISI 410 | 1.4006 |
| 10 • | Stem | AISI 410 | 1.4006 |
| 11 | Bonnet | A351 CF8 | 1.4008 |
| 12 • | Stem bushing | GGG60 zinc plated | GGG60 zinc plated |
| 13 | Crank | C.Steel zinc plated | C.Steel zinc plated |
| 14 | Washer | St. steel | St. steel |
| 15 | Cap nut | St. steel | St. steel |
| 16 | Handle | C.Steel zinc plated | C.Steel zinc plated |

* Other materials upon request
• Recommended spare parts
Certified drawings upon request
Weight: 3.2 kg

**TABLE 10 - DIMENSIONS (mm)**

| R | A | B | C | D | E |
|---|---|---|---|---|---|
| 0 | 271 | 60 | 45.5 | 55 | 60 |
| 50 | 321 | 110 | 45.5 | 55 | 60 |

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