



Smooth Line Cylinder Advantage

In many applications within the food and packaging industries, system parts and components are frequently in contact with food and cleaning processes.

Parts therefore need to be resistant to corrosion and heavy washdown (IP66/IP67), of sealed and cleanline construction, and hygiene class (non toxic, non absorbent). Norgren's Smooth Line Cylinder meets all these specifications and is designed to be easy to clean and disinfect - making it the ideal choice for packaging and food applications.



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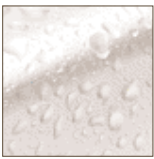
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SMOOTH LINE CYLINDER

Excellent washdown capabilities

Sealed sensing allows washdown
and control in one sealed package

Sealing conforms to Hygiene Design
standard EN1672-2



NATURALLY SMOOTH.....

With many hygiene critical applications it is extremely important that the risk of contamination is kept to a minimum. Many companies are constantly concerned with reducing this ever-present threat.

The new Smooth Line Cylinder from Norgren has been specifically designed to feature a smooth convex case that doesn't allow contamination.

We have also paid great attention to detail with the use of stainless steel screws and sealing between the end covers and barrel to prevent ingress. Representing a fresh new approach to cylinder design, Smooth Line is ideally suited to environments that require a high degree of hygiene as standard such as food/ beverage processing, dairy equipment and PET bottling applications.

If the machine undergoes a wash-down process, contamination on traditional cylinders that feature profile barrels is always a risk. With the new Smooth Line Cylinder this contamination risk is a thing of the past.



CYLINDER VARIANTS



SMOOTH LINE RANGE PVA/182000

This standard cylinder is a perfect blend of design and function, incorporating cleanline profile barrel and end caps. Ideal for use in the chemical, pharmaceutical and food industry due to non-corrosive and stainless steel materials. The PVA is available with or without integral magnetic switches for end of stroke position sensing.



STAINLESS STEEL RANGE KA/8000

Rugged and reliable for applications in harsh environments. Available in AISI 303, 304 and 316

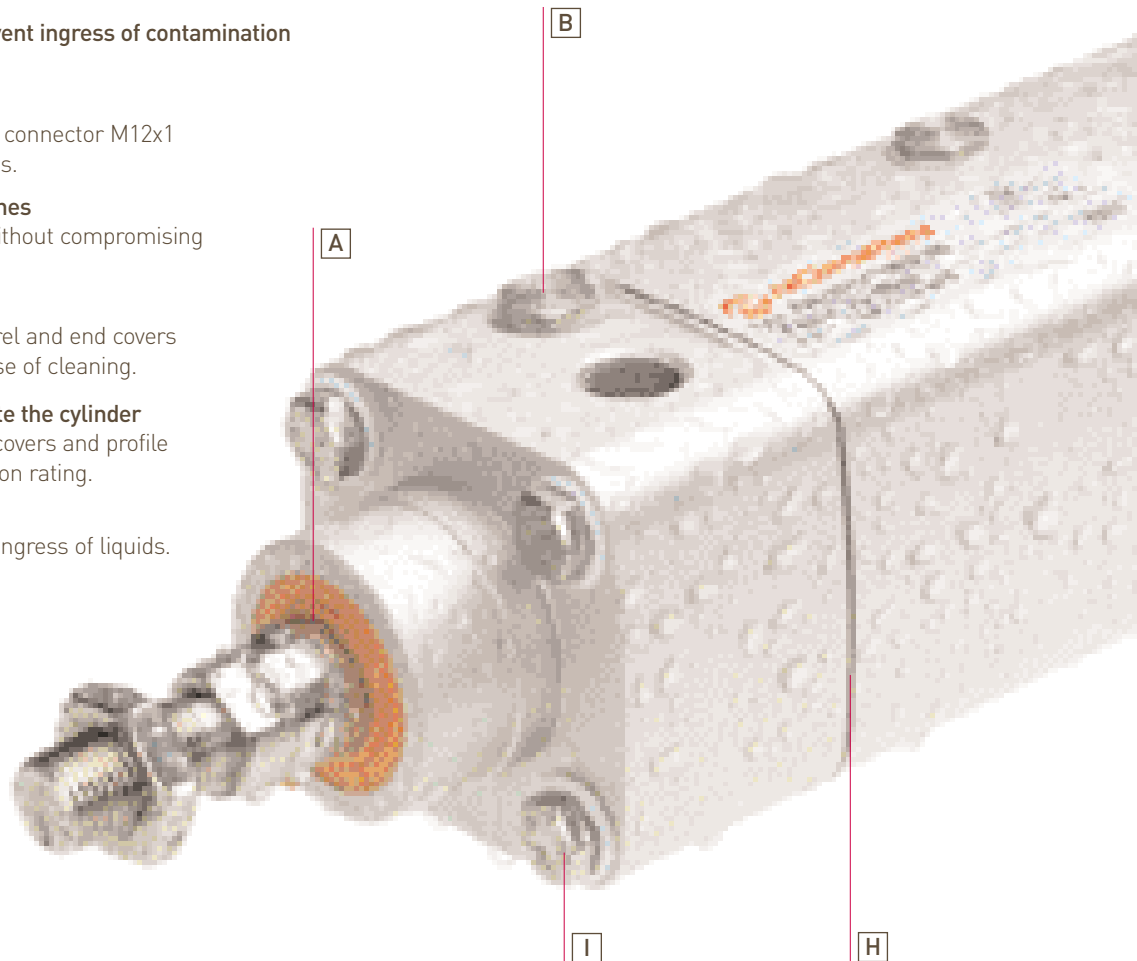


STANDARD RANGE PRA/182000

This standard cylinder with its unique design offers many advantages. Its specially shaped profile aluminium barrel with enclosed tie rods provides high rigidity. All sizes are available with and without magnetic piston for end of stroke position sensing.

CYLINDER ADVANTAGES

- A Protection against dust, chemicals and liquids**
New wiper/seals in special polyurethane to ensure long life and reduced maintenance time.
- B Ease of cleaning**
Cushion screws and switch adjusters sealed against ingress with stainless steel screws and PTFE seals.
- C Easy recognition of magnetic switching**
Cable connector with LED, coloured differently for front and rear sensors.
- D Sealed stainless steel nut to prevent ingress of contamination**
Protection class IP66/IP67
- E Reduced installation time**
Only one stainless steel electrical connector M12x1 male - 4 pin for magnetic switches.
- F Easily adjustable magnetic switches**
Maximum installation flexibility without compromising IP66/IP67 rating or smooth lines
- G Smooth lines**
Smooth anodised aluminium barrel and end covers offer corrosion resistance and ease of cleaning.
- H Sealed so no liquids can penetrate the cylinder**
Unique sealing between the end covers and profile barrel provides IP66/IP67 protection rating.
- I Complete sealing**
Optional cover screws to prevent ingress of liquids.

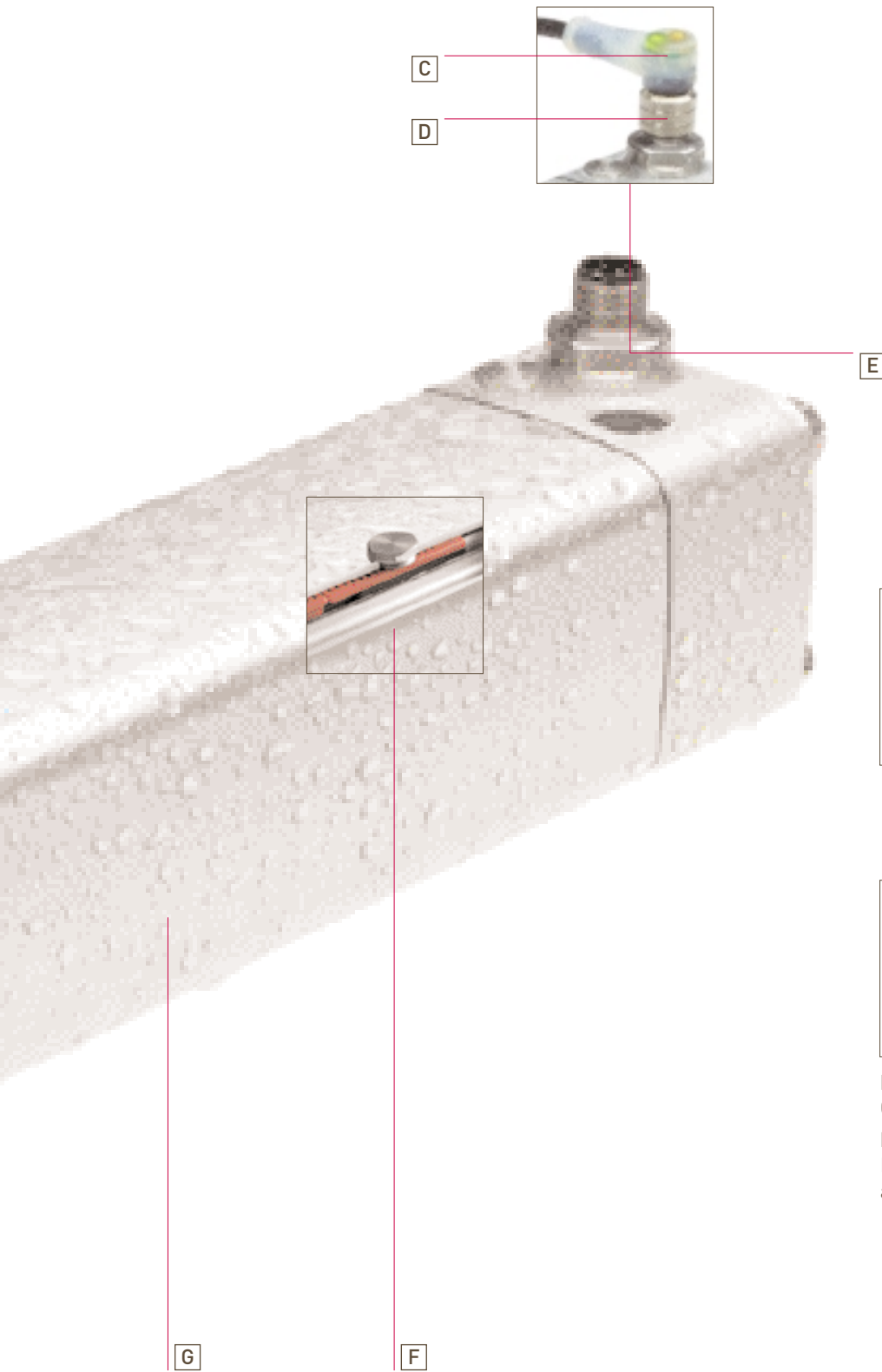


SMOOTH LINE RANGE PVA/182000

Body sealing conforming to EN 1672-2 (Hygiene design of machines in the food and drink industry)

Optional integrated rear eye mounting

Smooth and spherical profile design with concealed tie rods offering a rigid construction with reduced servicing times



C

D

E

F

G



Standard version



Integrated rear eye mounting style 'R'

Low friction and long life

Glacier bearing as standard

Mounting holes not necessary

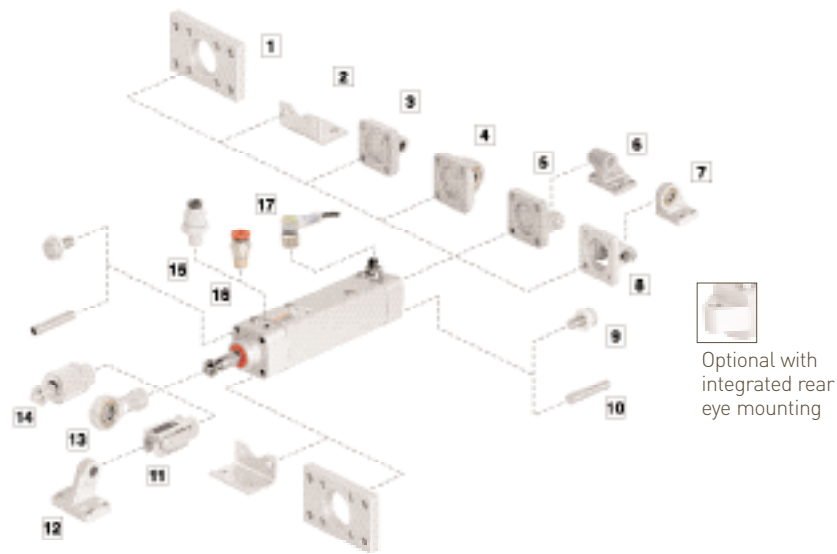
No gap between rear end cover and standard mounting

CLEANING LIQUIDS FROM LEADING MANUFACTURER

The cylinder is compatible with the following cleaning fluids

- Henkel-Ecolab Germany P3-topax 12
- P3-topax 52
- P3-topax 91
- P3-topax 99
- P3-topactive LA

CYLINDER ACCESSORIES



- 1 Front flange mounting, style »B« or »G«
- 2 Foot mounting, style »C«
- 3 Rear eye mounting, style »R«
- 4 Universal rear mounting, style »UR«
- 5 Rear clevis mounting, style »D«
- 6 Bracket for clevis mounting, style »SW«
- 7 Bracket hinge for clevis mounting, style »US«
- 8 Rear clevis mounting, style »D2«
- 9 Blanking screw and seal (4 per pack)
- 10 Front or rear stud mounting, style »A«
- 11 Piston rod clevis mounting, style »F«
- 12 Bracket for clevis mounting, style »SS«
- 13 Universal piston rod eye mounting, style »UF«
- 14 Piston rod swivel mounting, style »AK«
- 15 Plastic push-in tube fittings
- 16 Stainless steel push-in tube fittings
- 17 Cable connector with LED's

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated or non-lubricated

Standard:

ISO 6431, VDMA 24562, NFE 49-3-1

Operation:

Double acting, non-magnetic and magnetic piston, with or without integrated switches, adjustable cushioning

Operating pressure:

1 to 10 bar

Operating temperature:

-20°C* to +80°C max.

*Consult our Technical Service for use below +2°C

Cylinder diameters:

32, 40, 50, 63, 80 and 100mm

Strokes:

Standard

Non-standard strokes, (10 to 3000 mm) available

Protection Class:

IP66/ IP67

MATERIALS

Profile barrel: clear anodised aluminium

End covers: clear anodised aluminium

Piston rod, piston rod nut, cover screws,

Barrel seals, M12-plug housing:

X10 Cr Ni S 18 9 (AISI 303, 1.4305)

Cover screw seals: PTFE

Piston and piston rod seals: polyurethane

O-rings: nitrile rubber