

# “Commando” corrosion protection system

## Description:

The COMMANDO corrosion protection system of Hytorc XL series pneumatic actuators consist of the following treatments or materials:

### 1 Pretreatment

Pretreatment is provided to ensure good adhesion and is applied in this order:

- Alkali wash of the body, end caps and pinions
- Acid wash of the body, end caps and pinions
- Alkali wash of the pistons.

### 2 Coating process

The aluminum body parts are treated with a Self-Priming one-coat blends of FEP fluoropolymer from the 954-101 range in a method that no extruded actuator body can receive, providing a complete, durable impregnation of all body parts, inside and out. The steel pinion is treated with 954-103.

The coating is applied to the body (inside and out), pinion and end caps by using spray equipment and dried and cured in an oven.

### 3 XL COMMANDO

The result is the “XL COMMANDO”. Years of field trials have proven this to be the answer to many corrosive environments. Light in weight, heavy in performance, state of the art design and a durable impregnation which guards against corrosion.

This durable impregnation can best be achieved in cast aluminum parts (all XL COMMANDO body parts are cast aluminum). As the aluminum metal grains are expanded under heat the 954-101 is applied, entering the grain structure and, upon cooling, is locked at the surface, integral with the grain structure. Extruded surfaces can only be coated and are more susceptible to scratches and other mechanical deterioration.

### 4 Valve position monitoring

To compliment the “XL COMMANDO” actuator range, Hytorc has two solutions for valve position monitoring in corrosive environments.

- There is the proven “HyVision” (NEMA 4 and IP66) manufactured in corrosion resistant composite materials
- The “SafeVision COMMANDO” (NEMA 4,4X,7,9 & ATEX II 2 GD EEx d IIC T6 specifications) manufactured and treated using the same processes as the “XL COMMANDO” to provide a complete solution to many of your corrosive environment problems.
- This product is only intended for use in large-scale fixed installations excluded from the scope of Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2).

### 5 Application

The “XL COMMANDO” is available in twelve sizes producing up to 35,000 in.lbs. (3954Nm) of torque for all types of 90 degree rotation valves. The “SafeVision COMMANDO” valve position monitors are available with up to four switches including proximity sensors and the “i MAX” hermetically sealed reed switch.

#### Specifications:

Coating	: Self-Priming one-coat FEP fluoropolymer.
Color	: Green for housing and end caps. : Black for the pinion.
Temperature	: -20° to + 100°C / -4°F to +212°F
Application	: Optional on Hytorc XL pneumatic actuators and SafeVision switch-boxes.