

# NUTORK<sup>®</sup>

## Actuators & Valves

### Position Monitoring Switchbox



IP67 water-proof  
**316SS**



IP67 water-proof



IP67 water-proof  
IP68 (50M @72hrs tested by SGS)  
**SIL3 Approval**



IP67 / ExdIICT6 Explosion-proof  
**316SS**



Magnet Type, 2xSPST/NO  
Reed Switch, 0.5A at 250VAC



IP68 (30M @24hrs tested by TUV)  
IP67 & ExdIICT6 Explosion-proof  
**SIL3 Approval**  
**316SS**

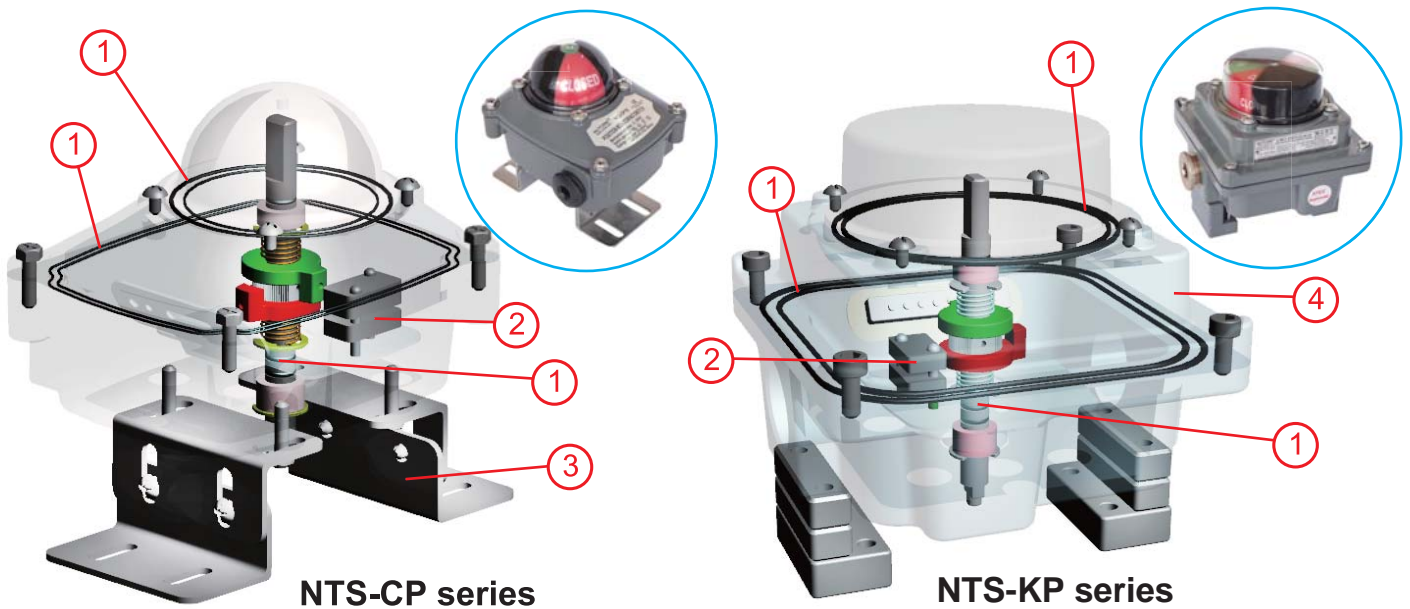


IP68 (30M @24hrs tested by TUV)  
IP67 & ExdIICT6 Explosion-proof  
**SIL3 Approval**



IP67 / ExdIICT6 Explosion-proof  
**SIL3 Approval**

## Patent Design, Water Proof IP68 (TUV 30M / 24hr, SGS 50M / 72hr)



- 1. Double seal, IP68 patent design
- 2. Optional P&F SIL2 proximity switch

- 3. Stainless Steel universal bracket
- 4. ATEX EExdIICT6 explosion-proof

**Certificate of Compliance**

No. EC.1282.OP141222.NC054  
Technical Construction File no. SCC2014413-9010

**Certificate's Holder:** NUTORK CORP., No. 158, Lane 1888, Daye Road, Fengxian Area, Shanghai, China

**Certification Mark:**

**Product:** Limit Switchbox  
**ATEX Code:** Ex d IIC T6  
**Model(s):** NTSKXX

**Verification to:** Standard: EN 60079-0:2009, EN 60079-1:2007  
related to Directives: 94/9/EC Equipment for Explosive Atmospheres (ATEX)

Remark: The product(s) has/have been verified on a voluntary basis. This product(s) satisfies the requirements of the Safety Certificate of Approval of ECM. The reference to this approval (ENEC Standard). The above Certification Mark can be affixed to the product(s) according to the ECM regulations. About its release and its use. Other relevant Standards and/or Directives have to be observed in case they are applicable. Whereas the Manufacturer is responsible of the / CE-certification of the product(s) and not exempted to perform all the necessary activities, having obtained the approval from the market. The Manufacturer is also responsible to maintain efficient internal production control to ensure the product(s) are in compliance with the Safety Certificate Mark. This certificate can be checked for validity at [www.enecma.org](http://www.enecma.org)

Date of issue: 22 December 2014      Expiry date: 21 December 2019

Chief Manager:   
Deputy Manager:

Enec Certificazione Macchine Srl  
Via Ca' Belfa, 243 - Loc. Castello di Serravalle - 40053 Valsamoggia (BO) - ITALY  
☎ +39 051 6705141 ☎ +39 051 6705156 ✉ info@enecma.it ✉ www.enecma.it

ATEX EExdIICT6 explosion-proof

Test Report No.: 748204251903  
Dated: 25-Aug-2015

**SUBJECT:** IP68 Test

**TESTED BY:** TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch Testing Center  
Environmental and Reliability Laboratory  
No.1051, Building 3B, Duhui Road, Minhang District  
Shanghai 201102, P. R. China

**TESTED FOR:** NUTORK CORP., NO.158, LANE 1888, DAYE ROAD, FENGXIAN AREA, SHANGHAI, CHINA

**TEST PERIOD:** 07-Apr-2015 and 19-Aug-2015

**Prepared By:**   
25-Aug-2015  
Li Songqiang  
Test Engineer

**Authorized By:**   
25-Aug-2015  
Liu Changsheng  
Manager

Laboratory: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch  
Environmental and Reliability Laboratory  
No. 1051, Building 3B, Duhui Road, Minhang District  
Shanghai 201102, P. R. China

Phone: +86 (21) 6087 5100  
Fax: +86 (21) 6087 5106  
Website: www.tuv.com.cn

Page 1 of 7

TUV 30M / 24hr

**SGS**

**Test Report** No.: XMHG151200703T-01      Date: Jan. 12, 2016      Page 1 of 6

NUTORK CORP., NO.158, LANE 1888, DAYE ROAD, FENGXIAN AREA, SHANGHAI, CHINA

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description: LIMIT SWITCHBOX  
SGS Ref No.: 02N151056728M1  
Style / Item No.: NTS-CPXX  
Sample Receiving Date: Dec. 29, 2015  
Test Performing Date: Dec. 29, 2015 to Jan. 7, 2016  
Test Performed: Selection 96012 as requested by applicant  
Test Result(s): For further details, please refer to the following page(s)

Signed for and on behalf of:  
Xiamen Branch, SGS-CSTC Co., Ltd.

Shiyou Xia  
Approved Signatory

SGS 50M / 72hr

## NTS Valve Position Monitor(Limit Switchbox)

### Material of Construction

Aluminum Alloy Body: NTS -A, C,CS, CP,K,KP,H Series

316SS Body: CS,HS,KS Series



**NTS-A**

IP67 water-proof

**NTS-C/CP**

IP67 water-proof  
IP68 (50M @72hrs tested by SGS)  
SIL3 Approval

**NTS-CS**

IP67 water-proof  
316SS

**NTS-K/KP**

IP68 (30M @24hrs tested by TUV)  
IP67 & ExdIICT6  
Explosion-proof  
SIL3 Approval

**NTS-KS**

IP68 (30M @24hrs tested by TUV)  
IP67 & ExdIICT6  
Explosion-proof  
SIL3 Approval  
316SS

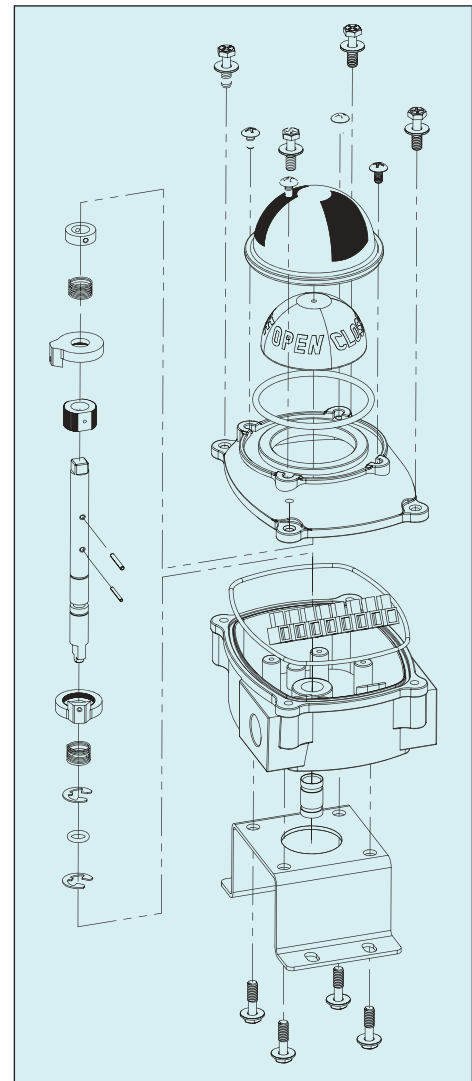
**NTS-H**

IP67/ExdIICT6  
Ex-proof  
SIL3 Approval

**NTS-HS**






IP67/ExdIICT6  
Ex-proof  
316SS

Housing	Low cooper aluminum die-casting
Coating	Epoxy-Polyester
Sealing	NBR O-rings on each interface (Dome indicator,Lower/Upper Housing, Shaft)
Cams	Poly-Carbonate
Bushings	Bronze
Shaft	AISI304 Stainless Steel
Earth Lug	Stainless Steel
Mounting Bracket	AISI304 Stainless Steel



## NTS Valve Position Monitor (Limit Switchbox)


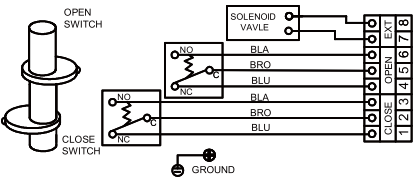

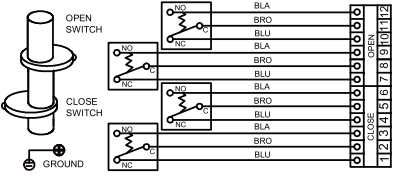

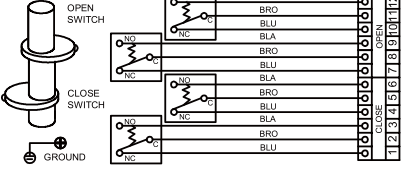

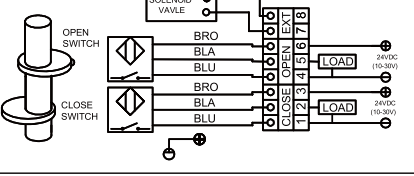

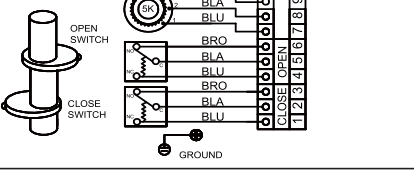

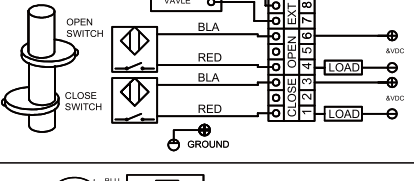

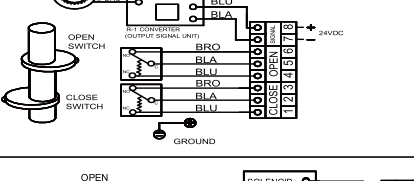
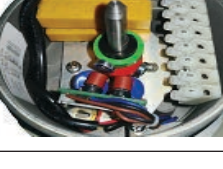
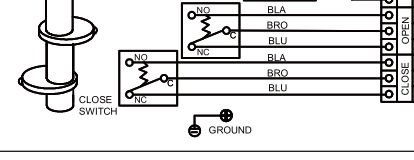
### NKS-A,C,CP,CS,K,KP,KS,F,H ,HS, Series General Specification

	<p><b>NTS-A Series, Weather-Proof</b></p> <ul style="list-style-type: none"> <li>- Enclosure: Aluminum Die-casting, Weather proof - IP67/NEMA 4&amp;4X,</li> <li>- Bolts on visual position indicator</li> <li>- Switches: 2xSPDT mechanical switch</li> <li>- Cable Entry: 2x1/2"NPT(std.) or M20x1.5</li> <li>- Terminal Strip: points(0.08~2.5mm2), Option:8 points</li> <li>- Easy mounting, Namur standard, stainless steel bracket &amp; bolts</li> </ul>
 <p>316SS</p>	<p><b>NTS-C/CP Series, Weather-Proof, SIL3 Approval</b> <b>NTS-CS (316SS) Series, Weather-Proof.</b></p> <ul style="list-style-type: none"> <li>- Enclosure: NTS-C/CP Series: Aluminum Die-casting , NTS-CS Series: 316SS material, Weather proof - IP67/NEMA 4&amp;4X, IP68 water-proof</li> <li>- Bolts on visual position indicator</li> <li>- Switches: 2, 3 or 4xSPDT mechanical switch or proximity</li> <li>- Cable Entry: 2x1/2"NPT(std.) or M20x1.5</li> <li>- Terminal Strip: points(0.08~2.5mm2), Option:8-16 points</li> <li>- Easy mounting, Namur standard, stainless steel bracket &amp; bolts</li> </ul>
 <p>316SS</p>	<p><b>NTS-H Series, Ex-Proof(ExdIICT6), SIL3 Approval</b> <b>NTS-HS (316SS) Series, Ex-Proof(ExdIICT6)</b></p> <ul style="list-style-type: none"> <li>- Enclosure: NTS-H Series: Aluminum Die-casting, NTS-HS Series: 316SS material. Weather proof - IP67/NEMA 4&amp;4X, IP68 (Optional) &amp; Explosion proof: EExdIICT6</li> <li>- Bolts on visual position indicator</li> <li>- Switches: 2, 3 or 4xSPDT mechanical switch or proximity</li> <li>- Cable Entry: 2x3/4"NPT(std.) or M20x1.5</li> <li>- Terminal Strip: points(0.08~2.5mm2), Option:8-16 points</li> <li>- Easy mounting, Namur standard, stainless steel bracket &amp; bolts</li> </ul>
 <p>316SS</p>	<p><b>NTS-K/KP Series, IP67/IP68 Water-proof, ExdIICT6 Ex-proof, SIL3 Approval</b> <b>NTS-KS (316SS) Series, Ex-Proof(ExdIICT6)</b></p> <ul style="list-style-type: none"> <li>- Enclosure: NTS-K/KP Series: Aluminum Die-casting, NTS-KS Series:316SS material. Weather proof - IP67/IP68 Water-proof, ExdIICT6 Ex-proof</li> <li>- Bolts on visual position Indicator</li> <li>- Switches: 2, 3 or 4 x SPDT mechanical switch or proximity</li> <li>- Cable Entry: 2 x 3/4"NPT(std.). Option:M20,PG13.5,PF1/2",PT1/2"</li> <li>- Terminal Strip: 8 points(0.08 – 2.5mm2), Option: 8-16 points</li> <li>- Easy mounting, Namur standard, stainless steel bracket &amp; bolts</li> </ul>
	<p><b>NTS-F Series, Weather-Proof</b></p> <ul style="list-style-type: none"> <li>- Enclosure: ABS plastic, weather-proof, IP67/NEMA 4 &amp;4X</li> <li>- Visual position Indicator</li> <li>- Switches: 2 x SPST magnet reed switch, LED indicator</li> <li>- 0.7 meter lead wire(std.), option: quick coupler</li> <li>- Easy mounting, Namur Standard, stainless steel bracket &amp; bolts</li> </ul>

Note: A. Standard Specification: 1. Captive cover bolts. 2. Polyester powder coating (black color).  
3. Ambient Temp.: -20 ~ +80°C  
B. The other painting & colors are available upon request.

## NTS Valve Position Monitor (Limit Switchbox)

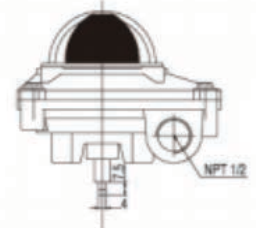
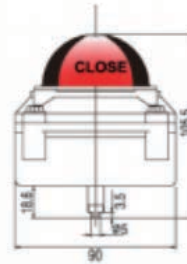
### Switches, Wiring and Bracket(NTS-A,C,CP,CS,K, KP,KS,H,HS)

<p><b>2-SPDT mechanical switches</b>                      Rating: 16A@125/250VAC,                      0.6A@125VDC, 0.3A@250VDC                      3A@24VDC                      approved by UL, CSA</p>		
<p><b>4-SPDT mechanical switches</b>                      Rating: 16A@125/250VAC,                      0.6A@125VDC, 0.3A@250VDC                      3A@24VDC                      approved by UL, CSA</p>		
<p><b>2-DPDT mechanical switches</b>                      Rating : 10A 125 or 250VAC                      2A 480VAC                      1/8HP 125VAC, 0.25HP 250VAC                      0.5A 125VDC, 0.25A 250VDC                      approved by UL, CSA</p>		
<p><b>Autonics proximity sensors PS17-5DNU(NPN, PNP), 3-wire</b>                      Voltage rating : 10~30VDC                      Sensing distance : 5mm                      Ambient temperature : -25~+70°C</p>		
<p><b>P &amp; F proximity sensors NJ2-V3-N(Intrinsic safe, 2-wire)</b>                      Voltage rating : 8.2 V DC                      Sensing distance : 2mm                      Ambient temperature : -25~+100°C</p>		
<p><b>Potentiometer</b>                      Providing 0-1K ohm output signal,                      Options: 0-5K or 10K ohm</p>		
<p><b>Position Transmitter</b>                      Providing 4-20mA DC(or 0~1K ohm)                      output signal as feedback, 15~28VDC                      loop power(24V DC input power)                      Load impedance : 0~600 Ohm,                      Max output : 35mA DC                      Adjustment : Zero and span</p>		
<p><b>Magnet type reed switch</b>                      Hermetically sealed,2xSPDT or DPDT                      Rating:3A@5-240VAC/DC                      Sensing distance: 5mm                      Ambient temperature : -40~+125°C                      EExialICT6 &amp; EExdiICT6 approved</p>		

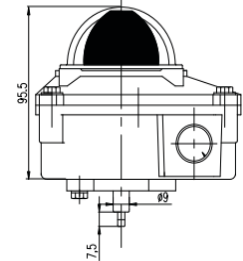
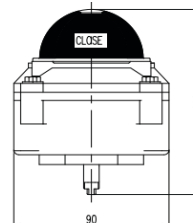
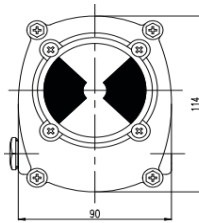
## NTS Valve Position Monitor (Limit Switchbox)

### Dimension

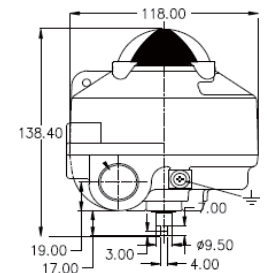
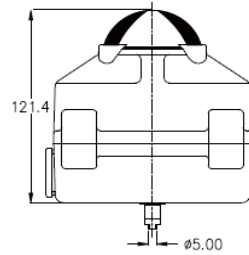
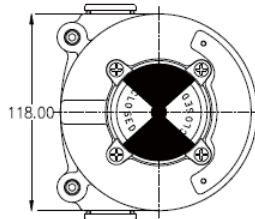
NTS-A Series



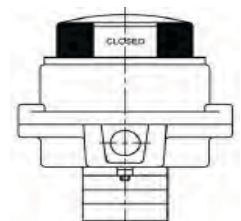
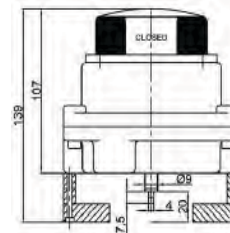
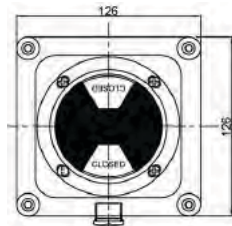
NTS-C/CP/CS Series



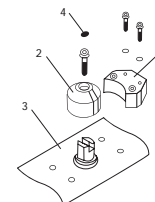
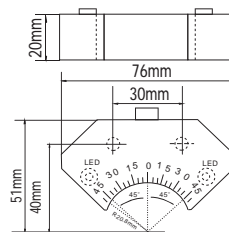
NTS-H/HS Series



NTS-K/KP/KS Series



NTS-F Series



## Ordering Information:

NTS - C - 10 - S1

### Enclosure Type:

A series(Aluminum Die-Casting Housing,IP67/Weather-Proof)  
 C series(Aluminum Die-Casting Housing,IP67/Weather-Proof)  
 CP series(Aluminum Die-Casting Housing, **IP68/Weather-Proof** )

**Submerged 50Meter@72hrs approved by SGS**

CS series(**316SS** Housing,IP67/Weather-Proof)

H series(Aluminum Die-Casting Housing,IP67/ExdIICT6)

HS series(**316SS** Housing,IP67/ExdIICT6 )

K series(Aluminum Die-Casting Housing,IP67/ExdIICT6)

KP series(Aluminum Die-Casting Housing, **IP68/ExdIICT6** )

**Submerged 30Meter@24hrs approved by TUV**

KS series(**316SS** Housing,IP67/ExdIICT6)

F series(ABS Housing,IP65/Weather-Proof)

**Note: NTS-H/HS/K/KS series limit switchbox are approved by CE-ATEX.**

### Switch Type

Mechanical Switch:

10 - 2xSPDT,mechanical type,16A at 125/250VAC; 0.6A at 125VDC

12 - 4xSPDT,mechanical type,16A at 125/250VAC; 0.6A at 125VDC

13 - 2xDPDT,mechanical type,16A at 125/250VAC; 0.6A at 125VDC

14 - 2xSPDT+Potentiometer(0-5K/10K ohm)

15 - 2xSPDT+Position Transmitter(4-20mADC output)

**Note: NTS-A series is not available at switch type 12~15**

**NTS-C/CP/CS series is not available at switch type 14&15**

Inductive / Magnet Type Proximity Sensor

21 - P&F NJ2-V3-N (2 wire/NC,8.2VDC,ExialIICT6 Ga, IP67, SIL2 approval)

22 - P&F NCB2-V3-N0 (2 wire/NC,8.2VDC,ExialIICT6 Ga,IP67,SIL2 approval)

23 - P&F NBN5-F7-E2(3-wire,PNP/NO,IP67 , (10~30 VDC)

24 - NUTORK NBB3-V3-Z4(3 or 2-wire,NO or NC,IP67,10-30VDC)

25 - Nutork Magnet Type Reed Switch, 2xSPST/NO (2-wire, 5-2 40VAC/DC, ≤ 500m A)

26 - Nutork Magnet Type Reed Switch

2xSPDT(3A @ 5-240VAC/DC,EEExialIICT6 & EExdIICT6 )

27 - Nutork Magnet Type Reed Switch

2xDPDT(3A @ 5-240VAC/DC,EEExialIICT6 & EExdIICT6 )

**Note: NTS-Aseries is not available at 24, 26 & 27**

**NTS-C/CP/CS series is not available at 26 & 27**

### Bracket Material

Blank - S.S. Universal Bracket(Standard) for all Namur Dimension

S1: 80x30x20 Namur S.S. Bracket

S2:130x30x30 Namur S.S. Bracket

**Note: The price is included 304SS bracket as the standard for all switchbox**

**NUTORK CORP.** manufactures a wide range of pneumatic actuators, electric actuators and the accessories of pneumatic actuator (limit switchbox, solenoid valve, manual override ---etc.) for quarter turn valves



Rack & Pinion Type Pneumatic Actuator.  
**Max. Output Torque: 9,768Nm**  
 Approved by ATEX/SIL3/EAC/SGS



Scotch Yoke Type Pneumatic & Hydraulic Actuator.  
**Max. Output Torque 238,818Nm**  
 Approved by ATEX/SIL3/EAC



NTQ Series Electric Actuator  
 IP67/IP68(30M@24hrs)Enclosure & EExdIIBT6  
**Max. Output Torque 6000Nm**  
 Approved by SIL3/IP68/MD/LVD/EMC & Approved by ATEX/EAC/DNV



NTE Series Electric Actuator  
 IP67/IP68(30M@24hrs)  
 Enclosure  
**Max. Output Torque 6000Nm**  
 Approved by SIL3/IP68/MD/LVD/EMC & Approved by EAC/DNV



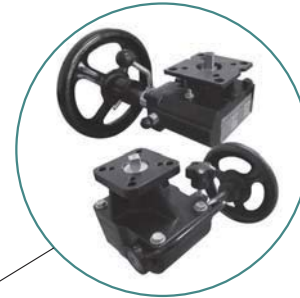
Limit Switchbox IP67/IP68(50M@72hrs)  
 Enclosure & EExdIIBT6/EExdIIC6  
 Approved by ATEX/SIL3/EAC



Solenoid Valve 3/2NC & 5/2 Way, Static O-ring Sealing Design.  
 Aluminum & 316SS Body  
 IP67 & EExdIIBT6/EExdIIC6  
 Approved by ATEX/SIL3/SGS



Air Filter Regulator Aluminum Body with Vinyl Paint & 316SS Body.  
 Size: 1/4" ~ 2"  
 Approved by EAC/SGS



Manual Override Aluminum & Cast Iron & Ductile Iron Body  
**Max Output Torque 18,000Nm**



Ball valve (Floating ball design),  
 We can provide different pressure rating/ connection type/ operation mode.



Concentric Soft Seated Butterfly Valve  
 High Performance Double Eccentric Butterfly Valve  
 High Performance Triple Offset Metal Seated Butterfly Valve  
 We can provide different pressure rating/ connection type/ operation mode.