

# ROTEX VRA SERIES VANE ACTUATOR



## VANE TYPE ACTUATOR

Constant Torque, Compact Actuator  
Trusted Tested Certified



ATEX CE



FIELD COMM  
GROUP



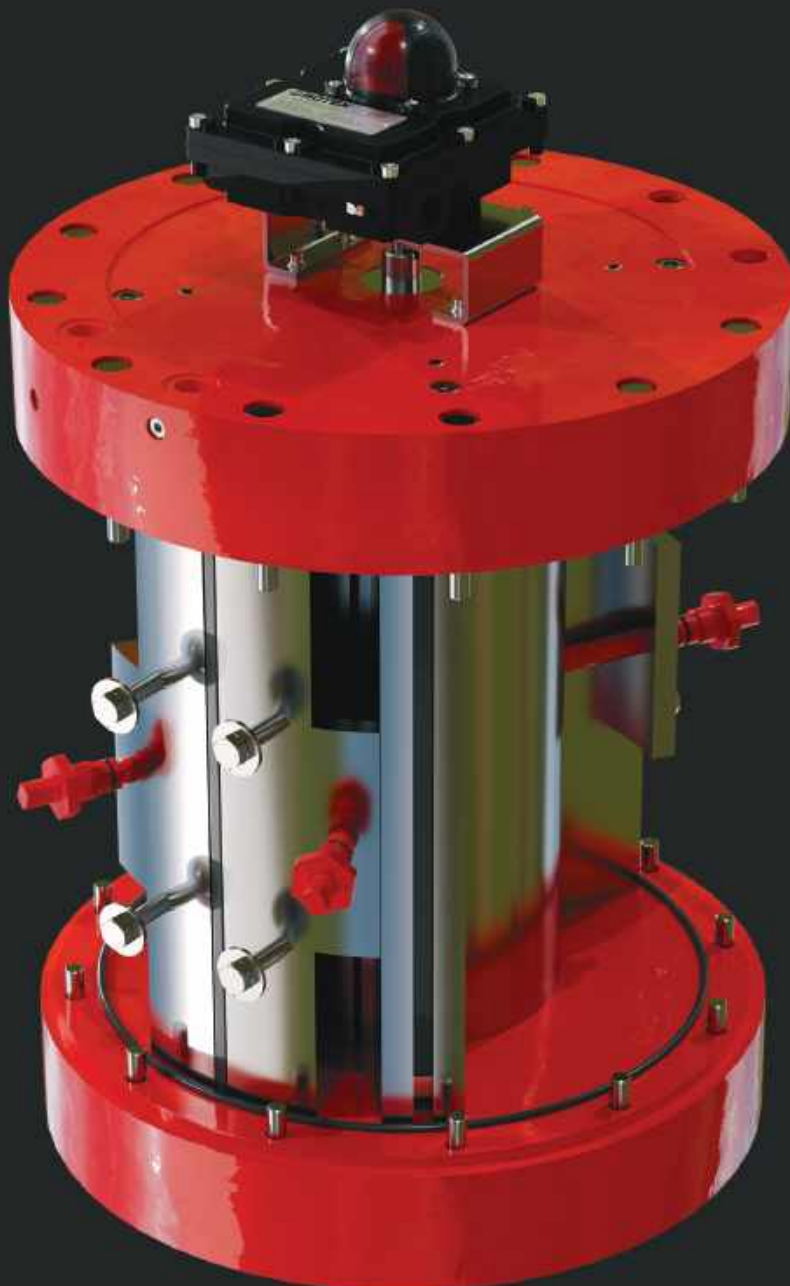
# ROTEX

*Engineering For The Future*

**PATENT  
PENDING**

In continuation with the tradition of constant innovation, Rotex introduces the next generation of **COMPACT, HIGH LIFE, VANE TYPE** Actuator.

## **VRA COMPACT, HEAVY DUTY, HIGH LIFE, VANE TYPE ACTUATOR.**



# WHY ROTEX?



**Do you have problem of high wear and galling?**  
Happens due to excessive wear of wear pads.



**Do your problem of torque loss over a period?**  
As the vane wears the friction increases causing loss in torques.



**Do you have problem in shaft bearings and alignment?**  
Due to the bush-bearings, play is unavoidable causing issues.



**Do you have problem in maintaining the actuator?**  
Needs frequent maintenance due to wear and tear and various.

**ROTEX VRA series VANE actuator  
solves all the problem mentioned above  
guarantees performance !!**

**SEE HOW**

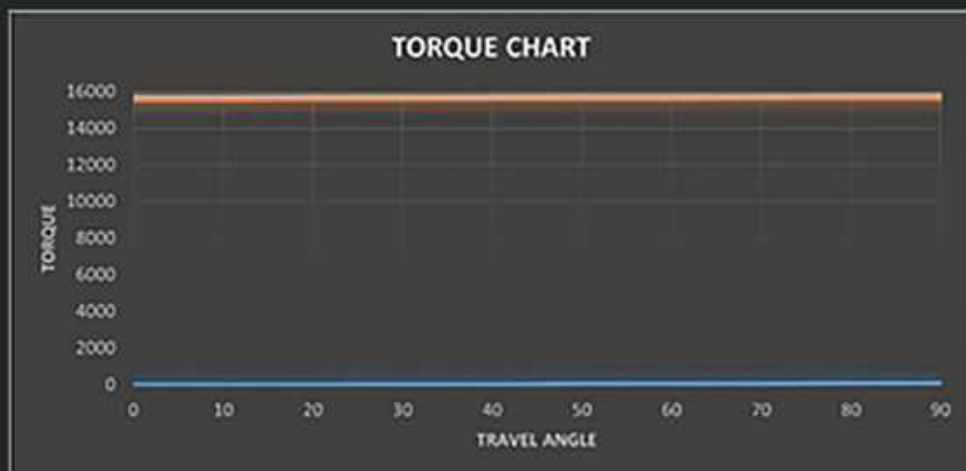
## Key Features

- +/- 7 % adjustment available,
- One piece drive shaft and vane,
- Unique bearings levelling system “ULTRAVEL” for negligible friction,
- Adjustable vane level avoids completely the friction and wear
- Highest torque output from the same family of actuators
- Unique Quad-seal for sealing, against O-rings



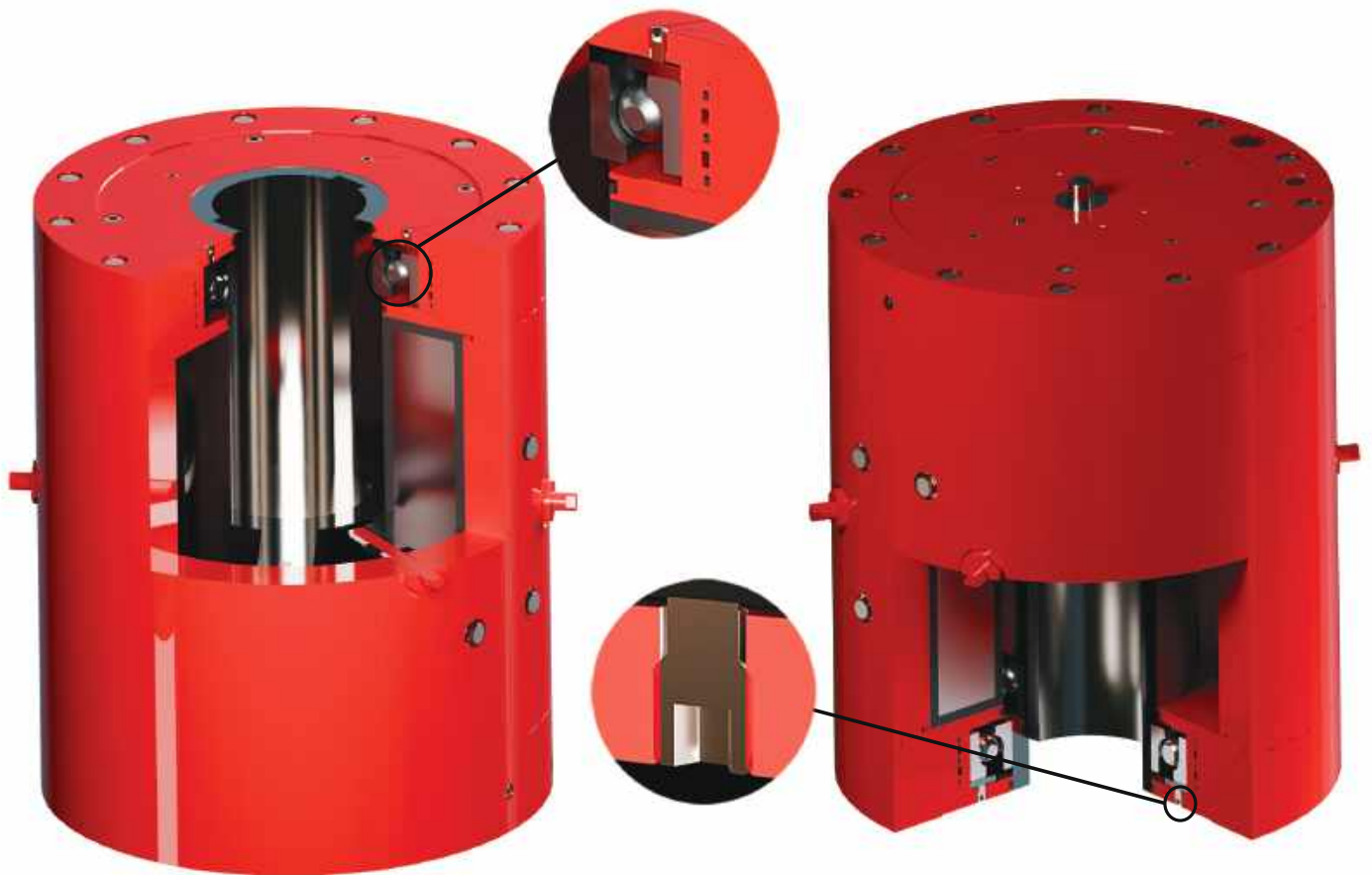
## Application

- Constant torque
- Severe service valves
- Natural Gas pipelines
- Steel plant
- Slurry service
- Catalyst valves



## Unique Design Feature

ANGULAR CONTACT BEARINGS C/S, DISTANCE ADJUSTMENT, QUAD SEAL



- Unique bearings to support heavy weight of vane
- Adjustable bearing allows the vane to be in perfectly middle of two covers
- Increased seal life due to smooth working and no erosion of sealing surfaces
- Quad seals for least stiction



**LOWER FRICTION-IMPROVED PERFORMANCE**



**NEGLIGIBLE CHANGE OF VANE TOUCHING  
BODY ENHANCED LIFE**

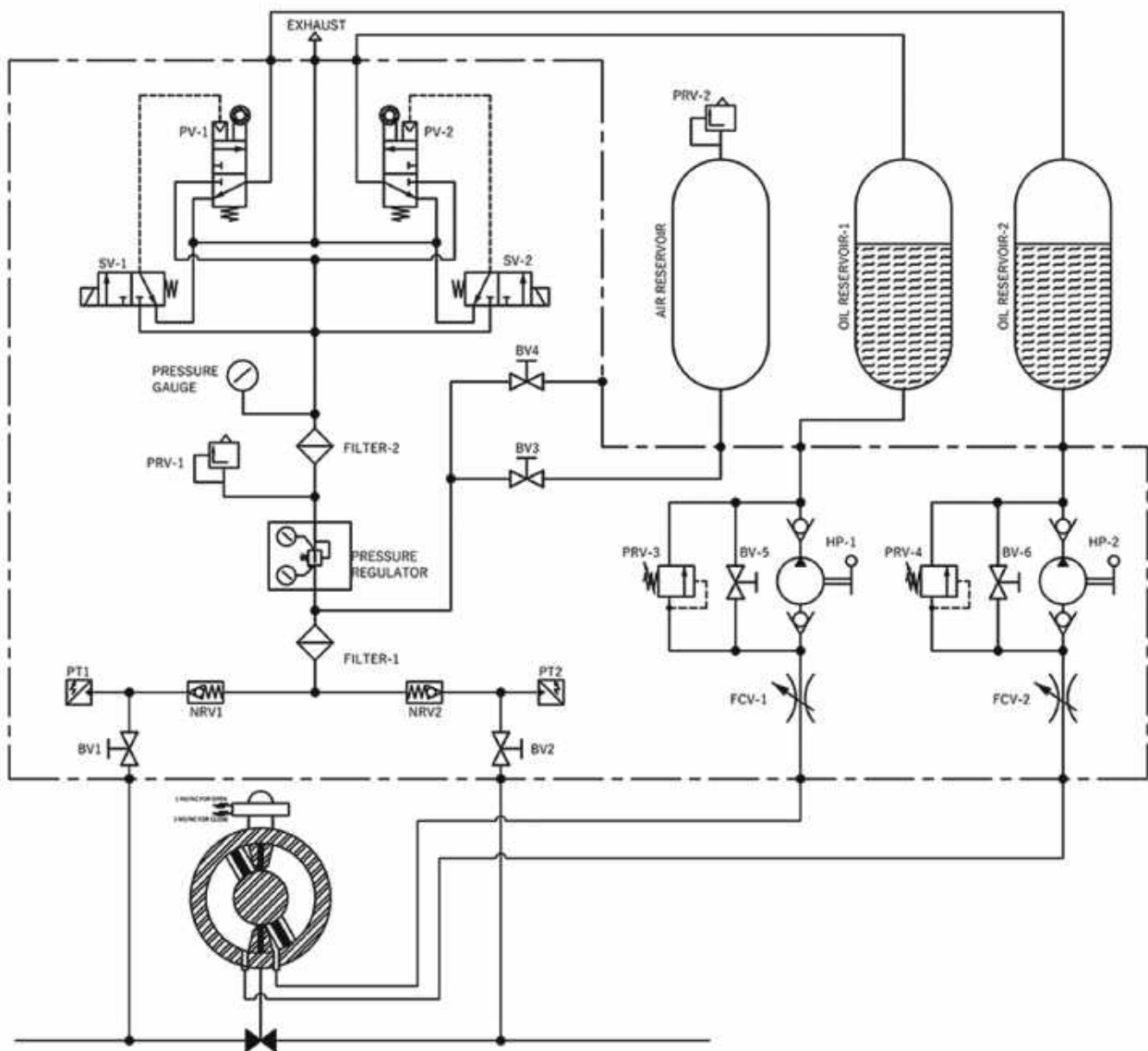
**VRA ACTUATOR FOR GAS OVER OIL (GOV)  
GAS OPERATED (GOO) APPLICATION**



## FEATURES

- Compact, constant torque actuator
- Zero jamming chances, hence ideally suited for long awaited operations
- Least consumption/ given torque, hence gas wastage is minimum

## HYDRAULIC SCHEMATIC VRA ACTUATOR FOR GOO/GOV APPLICATION



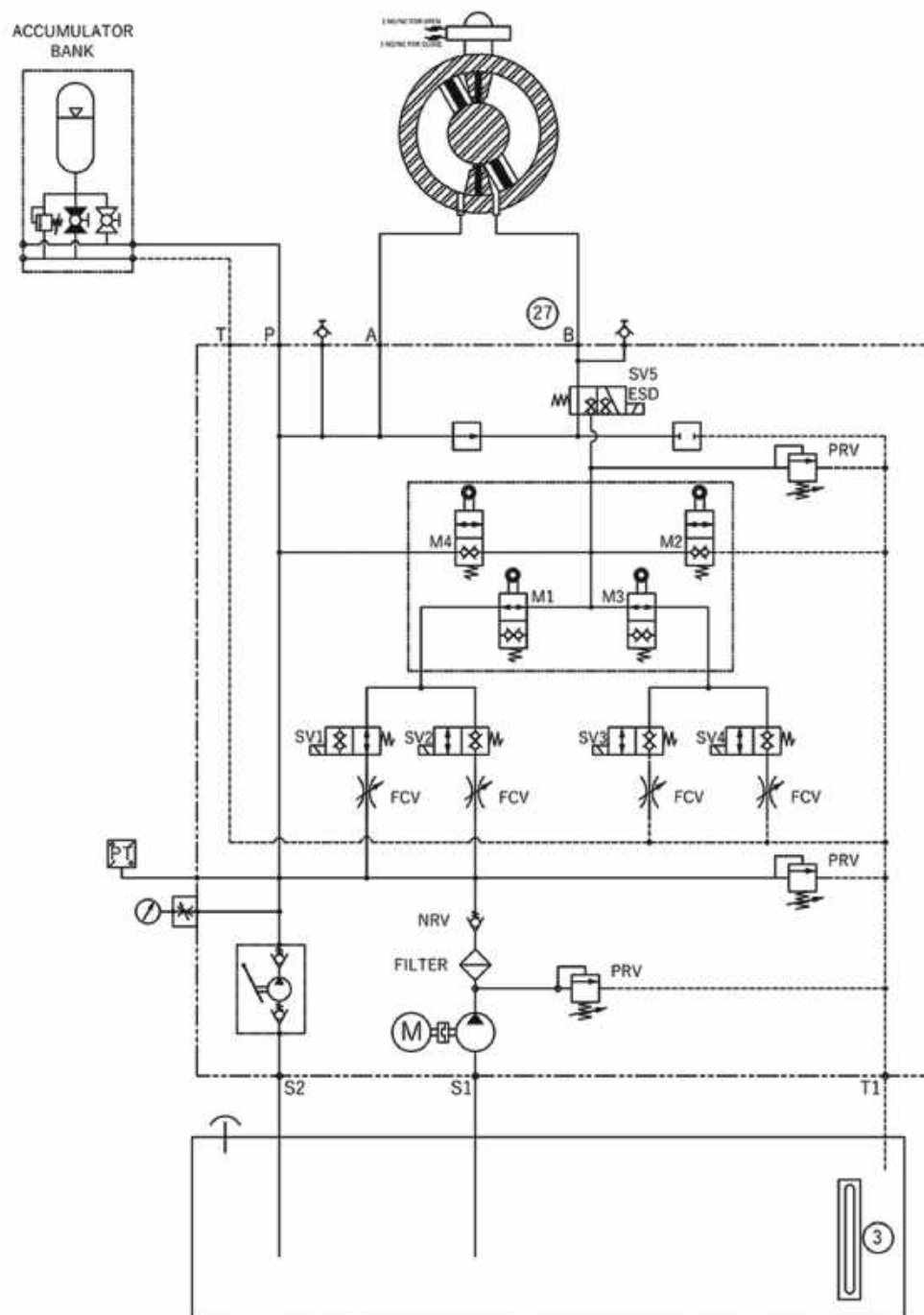
## VRA ACTUATOR FOR GAS OVER OIL (GOV) APPLICATION



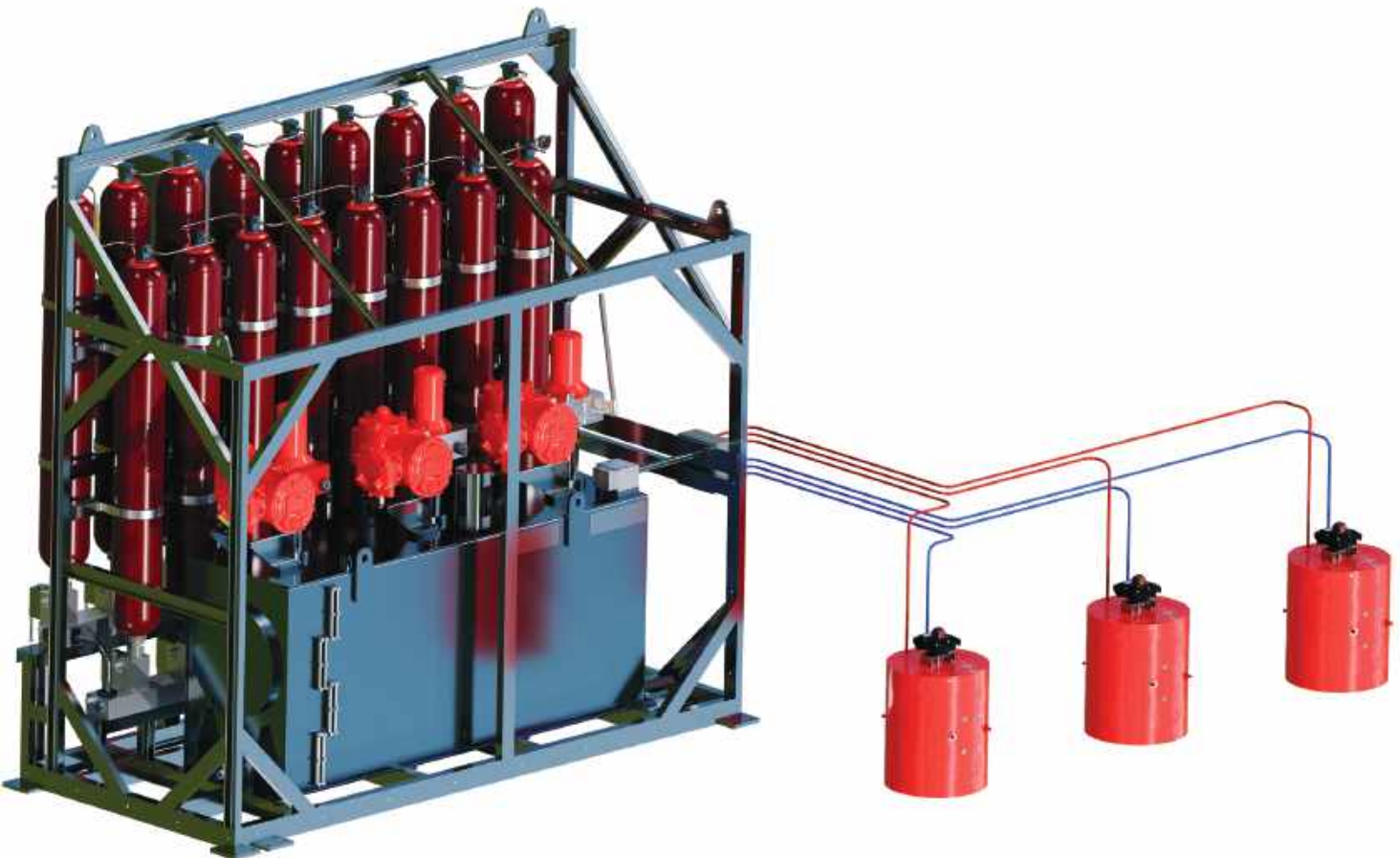
## FEATURES

- Fully self-contained design with a single integrated hydraulic block no external tubing required between internal hydraulic components.
- Modular design supports Rotary, On-Off, or Modulating operations.
- Emergency Shutdown (ESD) variants available – logical or hardwired options.
- Partial stroke testing can be initiated remotely or via the local control panel.
- Full-featured TFT display ensures easy installation, commissioning, and operation – no manuals needed.
- Ingress protection rating IP66/IP68 – tested for 10 meters, 96 hours, water and dust tight.
- Available with monolithic, weatherproof, or flameproof (Ex d) enclosures.
- Advanced diagnostics accessible via network for real-time analysis and maintenance planning.
- Parametric configuration allows customization for a wide range of applications.
- Compatible with major industrial communication protocols: HART, Modbus, Profibus DP, Ethernet, etc
- Wide operating temperature range: from -60 °C to +70 °C.

## HYDRAULIC SCHEMATIC SELF CONTAINED ELECTRO - HYDRAULIC VRA ACTUATOR



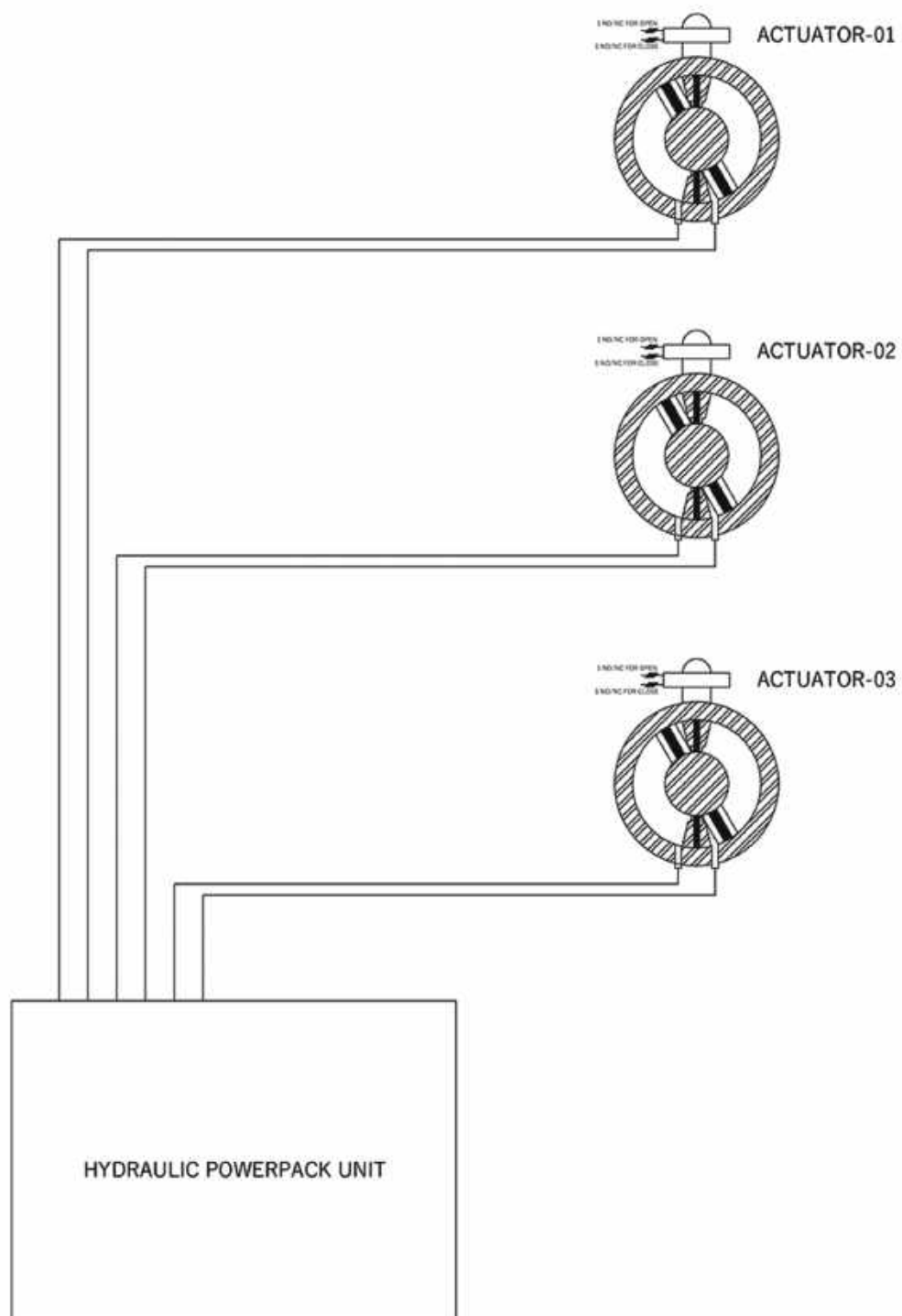
## SLURRY PIPELINE APPLICATION



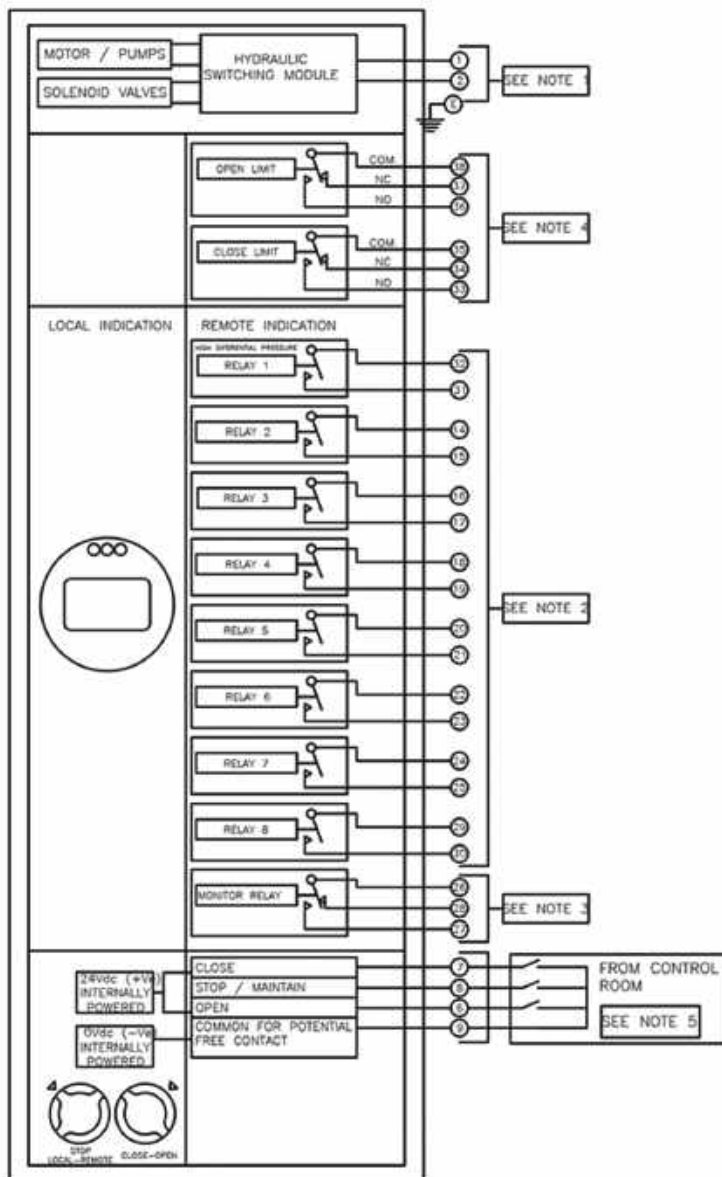
## FEATURES

- Vra designed to operate with common hpu
- The unique actuator cleaning system, using 0.5 micron filtration at rotex ensures the long life of oil cleanliness
- Common hpu with multiple vra connected on grid
- Hpu with double or triple redundancy
- Common accumulator or dedicated accumulator for each actuator

## HYDRAULIC SCHEMATIC VRA ACTUATOR WITH HPU



## WIRING DIAGRAM FOR EHF/GOV/HPU VANE ACTUATOR



NOTE:-1

|        |      |            |
|--------|------|------------|
| 24 VDC | + VE | TERMINAL-1 |
|        | - VE | TERMINAL-2 |

NOTE:-2

| CONFIGURABLE DIGITAL OUTPUT |                       |
|-----------------------------|-----------------------|
| SR NO                       | DESCRIPTION           |
| 1                           | CLOSE LIMIT           |
| 2                           | OPEN LIMIT            |
| 3                           | FAULT/ALARM           |
| 4                           | EEPROM ERROR          |
| 5                           | MAINS/PHASE FAIL      |
| 6                           | OVERPRESSURE LIMIT    |
| 7                           | STALL                 |
| 8                           | STALL MID             |
| 9                           | STALL LIMIT           |
| 10                          | MOVING                |
| 11                          | STOP                  |
| 12                          | MANUAL MODE           |
| 13                          | LOCAL MODE            |
| 14                          | REMOTE MODE           |
| 15                          | POSITION OVER RANGE   |
| 16                          | POSITION UNDER RANGE  |
| 17                          | OPENING               |
| 18                          | PRESSURE SENSOR ERROR |
| 19                          | CLOSING               |

NOTE:-  
ALL CONFIGURABLE RELAYS RATED AT  
5A - 120 VAC/30 VDC

NOTE:-3

MONITORS ACTUATOR AVAILABILITY.

NOTE:- 4

LIMIT SWITCH FEEDBACK FOR OPEN AND CLOSE POSITION.

NOTE:- 5

DIGITAL CONTROL SIGNALS 20-60 Vac/dc OR 60-120 Vac

## TORQUE CHARTS

| ACTUATOR MODEL | MAX. TORQUE<br>(Nm) | MAX OPERATING<br>PRESSURE<br>(BAR) | MIN WORKING<br>PRESSURE<br>(BAR) | MAX. VALVE<br>STEM DIA.<br>(MM) |
|----------------|---------------------|------------------------------------|----------------------------------|---------------------------------|
| VRA-4          | 3770                | 200                                | 20                               | 65                              |
| VRA-7          | 6560                | 200                                | 20                               | 65                              |
| VRA-16         | 15520               | 200                                | 20                               | 65                              |
| VRA-24         | 23620               | 200                                | 20                               | 90                              |
| VRA-43         | 42150               | 200                                | 20                               | 90                              |
| VRA-42         | 41310               | 135                                | 20                               | 110                             |
| VRA-65         | 63760               | 135                                | 20                               | 110                             |
| VRA-120        | 115470              | 135                                | 20                               | 130                             |
| VRA-150        | 152420              | 135                                | 20                               | 150                             |
| VRA-100        | 118320              | 100                                | 20                               | 150                             |
| VRA-300        | 303880              | 100                                | 20                               | 160                             |
| VRA-400        | 441370              | 100                                | 20                               | 180                             |
| VRA-700        | 711370              | 100                                | 20                               | 180                             |
| VRA-1000       | 962260              | 100                                | 20                               | 240                             |

## ORDERING CODE

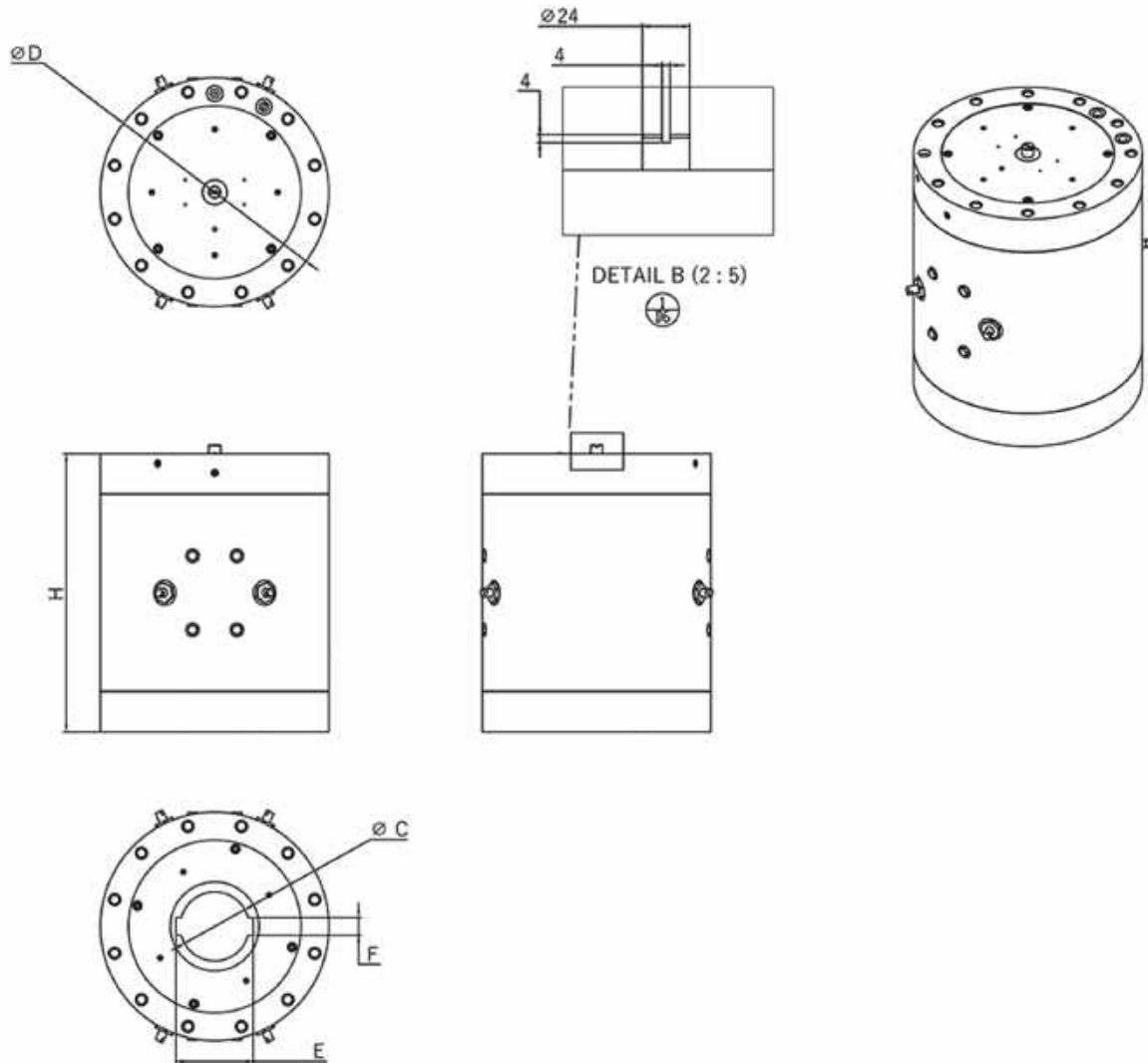
| 1              |                      |
|----------------|----------------------|
| PRODUCT SERIES |                      |
| CODE           | DESCRIPTION          |
| VRA            | VANE ROTARY ACTUATOR |

| 2          |
|------------|
| FRAME SIZE |
| CODE       |
| VRA-4      |
| VRA-7      |
| VRA-16     |
| VRA-24     |
| VRA-43     |
| VRA-42     |
| VRA-65     |
| VRA-120    |
| VRA-150    |
| VRA-100    |
| VRA-300    |
| VRA-400    |
| VRA-700    |
| VRA-1000   |

| 3             |                |
|---------------|----------------|
| SEAL MATERIAL |                |
| CODE          | DESCRIPTION    |
| *             | NBR            |
| AV            | VITON          |
| FS            | FLUORO SILICON |

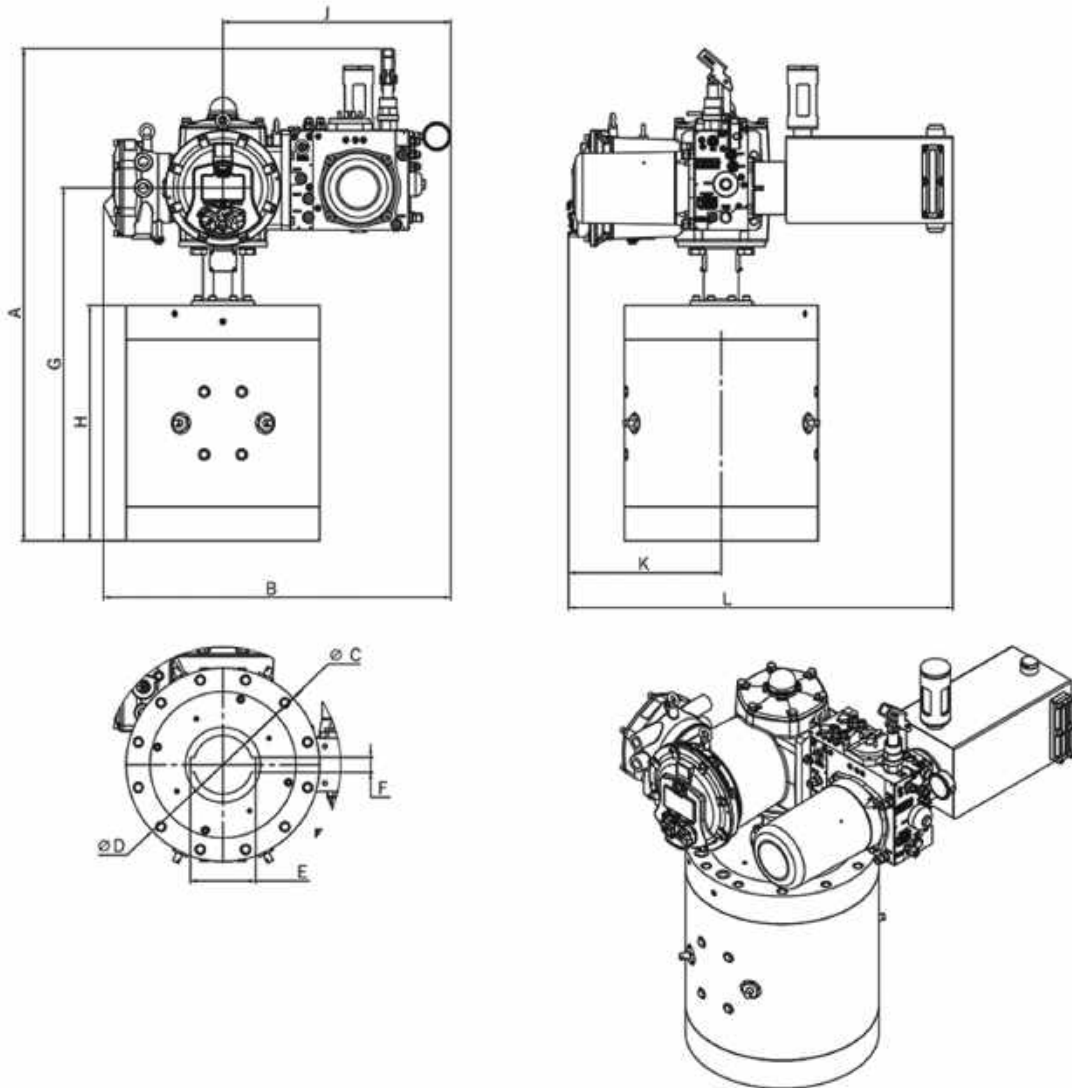
| 4               |                                |
|-----------------|--------------------------------|
| SPECIAL VERSION |                                |
| CODE            | DESCRIPTION                    |
| ENP             | INTERNAL ENP                   |
| SSD             | SUB SEAL UPTO 100 MTR          |
| SU              | SPECIAL CONSTRUCTION           |
| B5              | COMPLETE STAINLESS STEEL, CF8M |

## DIMENSION DETAIL



| DIMENSIONAL DETAILS (ACTUATOR) |                          |      |     |     |    |                       |
|--------------------------------|--------------------------|------|-----|-----|----|-----------------------|
| ACTUATOR MODEL                 | *MAX. COUPLING DIMENSION |      |     |     |    | ACTUATOR WEIGHT (KGs) |
|                                | D                        | H    | C   | E   | F  |                       |
| VRA-4                          | 225                      | 180  | 65  | 79  | 18 | 18                    |
| VRA-7                          | 225                      | 220  | 65  | 79  | 18 | 43                    |
| VRA-16                         | 225                      | 320  | 65  | 79  | 18 | 64                    |
| VRA-24                         | 300                      | 320  | 90  | 108 | 25 | 104                   |
| VRA-43                         | 300                      | 500  | 90  | 108 | 25 | 157                   |
| VRA-42                         | 400                      | 375  | 110 | 130 | 28 | 227                   |
| VRA-65                         | 400                      | 500  | 110 | 130 | 28 | 299                   |
| VRA-120                        | 475                      | 625  | 130 | 152 | 32 | 483                   |
| VRA-150                        | 510                      | 650  | 150 | 174 | 36 | 601                   |
| VRA-100                        | 625                      | 650  | 150 | 174 | 36 | 853                   |
| VRA-300                        | 775                      | 700  | 160 | 186 | 40 | 1325                  |
| VRA-400                        | 800                      | 900  | 180 | 210 | 45 | 1837                  |
| VRA-700                        | 800                      | 1350 | 180 | 210 | 45 | 3487                  |
| VRA-1000                       | 1000                     | 1350 | 240 | 280 | 56 | 4037                  |

## DIMENSION DETAIL



| DIMENSIONAL DETAILS (VANE ACTUATOR WITH SELF CONTAINED ELECTRO-HYDRAULIC VERSION) |                          |      |     |     |    |      |     |      |     |     |                                      |
|-----------------------------------------------------------------------------------|--------------------------|------|-----|-----|----|------|-----|------|-----|-----|--------------------------------------|
| ACTUATOR MODEL                                                                    | *MAX. COUPLING DIMENSION |      |     |     |    | A    | B   | G    | J   | K   | **ACTUATOR WEIGHT (KG <sub>s</sub> ) |
|                                                                                   | D                        | H    | C   | E   | F  |      |     |      |     |     |                                      |
| VRA-4                                                                             | 225                      | 180  | 65  | 79  | 18 | 775  | 775 | 462  | 550 | 350 | 60                                   |
| VRA-7                                                                             | 225                      | 220  | 65  | 79  | 18 | 795  | 775 | 502  | 550 | 350 | 80                                   |
| VRA-16                                                                            | 225                      | 320  | 65  | 79  | 18 | 895  | 775 | 602  | 550 | 350 | 100                                  |
| VRA-24                                                                            | 300                      | 320  | 90  | 108 | 25 | 895  | 775 | 602  | 550 | 350 | 150                                  |
| VRA-43                                                                            | 300                      | 500  | 90  | 108 | 25 | 1075 | 775 | 782  | 550 | 350 | 195                                  |
| VRA-42                                                                            | 400                      | 375  | 110 | 130 | 28 | 950  | 775 | 657  | 550 | 350 | 275                                  |
| VRA-65                                                                            | 400                      | 500  | 110 | 130 | 28 | 1075 | 775 | 782  | 550 | 350 | 340                                  |
| VRA-120                                                                           | 475                      | 625  | 130 | 152 | 32 | 1200 | 775 | 907  | 550 | 350 | 640                                  |
| VRA-150                                                                           | 510                      | 650  | 150 | 174 | 36 | 1225 | 775 | 932  | 550 | 350 | 675                                  |
| VRA-100                                                                           | 625                      | 650  | 150 | 174 | 36 | 1225 | 775 | 932  | 550 | 350 | 920                                  |
| VRA-300                                                                           | 775                      | 700  | 160 | 186 | 40 | 1275 | 775 | 982  | 550 | 390 | 1420                                 |
| VRA-400                                                                           | 800                      | 900  | 180 | 210 | 45 | 1475 | 775 | 1182 | 550 | 400 | 1890                                 |
| VRA-700                                                                           | 800                      | 1350 | 180 | 210 | 45 | 1925 | 775 | 1632 | 550 | 400 | 3550                                 |
| VRA-1000                                                                          | 1000                     | 1350 | 240 | 280 | 56 | 1925 | 775 | 1632 | 550 | 500 | 4200                                 |

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