



**HYDRAULIC DOUBLE ACTING
QUARTER TURN
SCOTCH-YOKE ACTUATOR**

series RJO-RSO-RWO-RCO

SERVOVALVE spa

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HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

SERIES RJO - RSO - RWO - RCO

DESCRIPTION

All the Servovalve series of quarter-turn scotch-yoke actuators are designed and manufactured for the transmission of high torque suited for ball or butterfly valves, plug etc. for on-off or throttling service.

The design, engineering and materials used in construction ensure optimum performance in the heaviest work condition in every environment according to the international standard specifications.

In the central housing a quarter turn scotch-yoke kinematism transforms the linear thrust of a double acting hydraulic cylinder in a torque to the valve shaft.

A series of central housing can be equipped with a wide range of hydraulic cylinders allowing the best choice according to the oil working pressure and the requested torque.

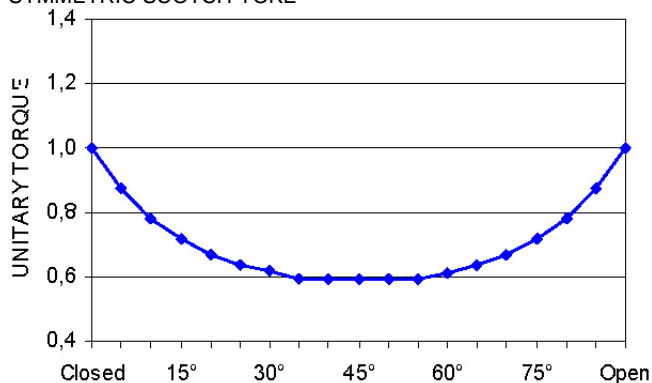
The central housing is designed to accept different types of scotch-yoke mechanisms (symmetric, series **RJO** and **RSO** or canted, series **RWO** and **RCO**) to allow the choice of the best actuator performance for every kind of valve.



SYMMETRICAL SCOTCH-YOKE

RJO and **RSO** series are available for the on-off or throttling valves in which it is requested an exalted torque during all the valve shaft running.

SYMMETRIC SCOTCH YOKE

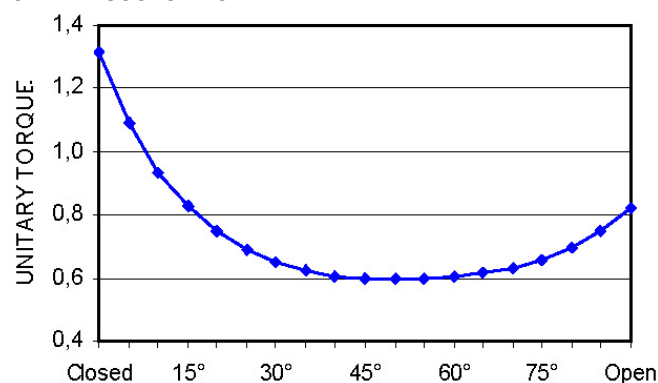


(typical output torque diagram with symmetrical scotch-yoke)

CANTED SCOTCH-YOKE

RWO and **RCO** series are ideally suited for the valves where it is requested an exalted torque in a specific final position (generally closed position or failure position) compared to the run and the opposite initial position.

CANTED SCOTCH YOKE



(typical output torque diagram with canted scotch-yoke)

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

SERIES RJO - RSO - RWO - RCO

MAIN DESIGN FEATURES

The actuators have a modular construction design.

All actuators have a totally enclosed module that provides complete protection for all moving parts, minimises the possibility of internal misalignment, and reduce the chance of injury to operating personnel.

They are realised with a central housing to which a series of standard hydraulic cylinders can be coupled to obtain the best choice in every kind of application.

The chromium plated rod, sliding on two PTFE charged bushings, turns the link by means of the cylinder piston and spring action alternatively to ensure minimum friction and long service life.

The link of the scotch-yoke is driven by two bronze bushings fit in the housing and in the cover

All the actuators of the series **RCO** and **RSO** are equipped with an alloy steel chromium plated bar that supports the transverse loads thrust of the scotch-yoke to assure a regular movement also in a continuous throttling action.

The hydraulic cylinder is inside chromium plated to prevent corrosion in aggressive environment and the piston is equipped with a PTFE charged slide to assure a linear drive and alignment under all load conditions allowing a long life and a perfect tight by means of two o-ring gaskets.

Link and joint block are connected to two hard bronze alloy sliding rings to allow a low friction factor and minimise wear of moving parts.

Field adjustable travel-stop are available in both directions to optimise the required valve stroke.

The central cover is equipped of a standard valve position indicator.

SPECIAL EXECUTION

Units with particular materials for special environmental conditions (low or high temperature, aggressive medium ect.) can be supplied on request.

MANUAL EMERGENCY DEVICE

All series of actuator can be equipped with a manual emergency device as:
handwheel
manual reductor with handwheel
hydraulic manual oil pump, with oil tank and relevant equipment

EQUIPMENTS

Each execution can be equipped with devices and accessories for the local or remote action and control as:

- limit switches
- solenoid valve
- flow control valve
- proportional solenoid valve for modulating service
- position transmitter
- hydraulic power unit
- special circuit for emergency fail-safe execution
- special hydraulic end electric equipment

TEST

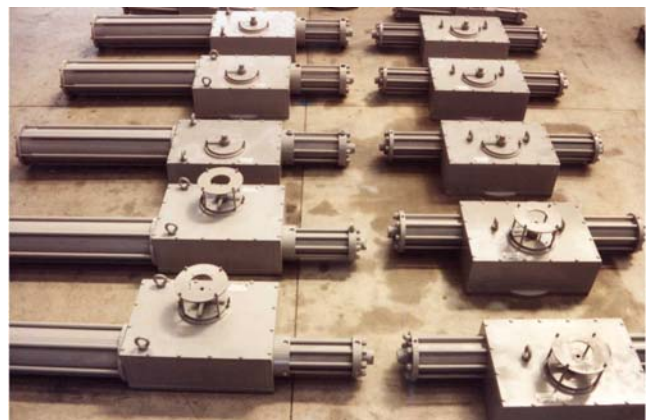
Every detail have been designed and tested with care and is then checked during the production process (from the receipt of the raw materials to final testing) against the strictest reliability criteria required under the ISO EN 9001 quality norm, which has been fully adopted by Servovalve.

All finished actuators are tested and certified by the Servovalve quality service before being released to external testers at the various authorising bodies and the customer's own inspectors.

CERTIFICATION

From 1995 Servovalve was awarded certification by international body DNV due to its full compliance with Quality Norm EN 9001.

From 2002 Servovalve actuators can be supplied with the CE mark according to the 97/23/CE directive (PED) and ATEX directive 94/9/ce under the approval of the notified body DNV.



HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

SERIES RJO - RSO - RWO - RCO

TECHNICAL PERFORMANCE

Pressure range:

Minimum working pressure: 10 bar
Maximum working pressure: see technical sheet
Cylinder test pressure: 1,5 max allowable pressure
Actuator test: 1,2 actuator max working pressure
On request available for higher work and test pressure

Angular stroke:

Turn: 90° +/- 5°

Environmental temperature range:

min: -20°C
max: +80°C
On request for lower or higher temperature

Operating medium:

oil
gas
any medium compatible with standard materials

Actuator seals gaskets:

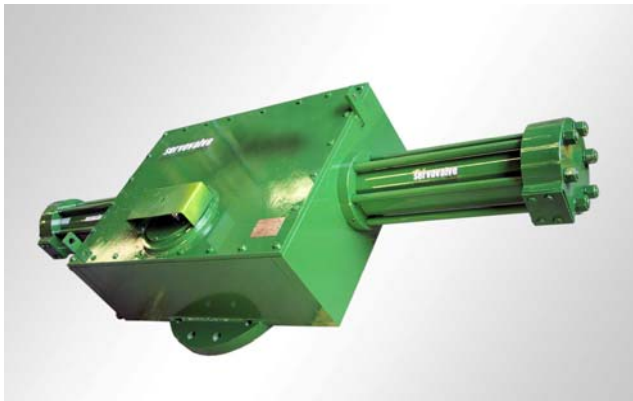
standard: N.B.R. (-20°C + 80°C)
low temp: fluorosilicone
high temp: viton

Painting:

Standard execution has surface protection with:
sandblasting
1 primer layer
1 epoxy finish layer
On request available other painting

Standard rotation:

Without any other indication canted actuators (**RWO** and **RCO**) are supplied with the max torque at the start rotating clock-wise (watching the actuator from the top).
Only on request canted actuators are supplied with counter-clockwise rotation.



SERVICE

The Servovalve personnel guarantees prompt assistance to the customer during the start up of the plant and its normal working life.

MAINTENANCE

The inner parts of the actuator are life-lubricated, therefore only replacement of the rubber gaskets may become necessary after a long working time as pointed out in the operating book.

SPECIAL ACTUATORS

Actuator for special performances or for torque requirements greater than shown, please contact our sales department.

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

SERIES RJO - RSO - RWO - RCO

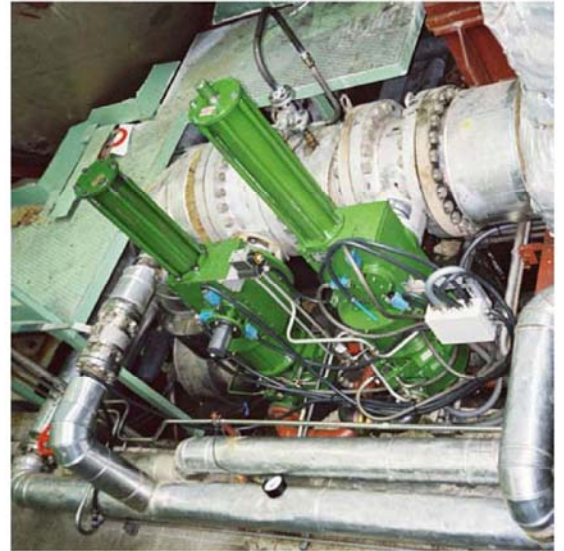
SCOTCH YOKE ACTUATOR CODE MODE

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|--|----------|----------|----------|----------|---|----------|----------|----------|----------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| MODEL | R | C | P | M | V | | 2 | 5 | 0 | 0 | / | 4 | 2 | 0 | S | | 3 | 0 | 2 | N | F | C | B | R | P |
| ACTUATOR TYPE | | | | | | | | | | | | | | | | | | | | | | | | | |
| - R rotary actuator | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCOTCH YOKE TYPE | | | | | | | | | | | | | | | | | | | | | | | | | |
| - K or W or C canted | | | | | | | | | | | | | | | | | | | | | | | | | |
| - G or T or J or S symmetric | | | | | | | | | | | | | | | | | | | | | | | | | |
| MEDIUM | | | | | | | | | | | | | | | | | | | | | | | | | |
| - P air or gas | | | | | | | | | | | | | | | | | | | | | | | | | |
| - O oil or other liquid | | | | | | | | | | | | | | | | | | | | | | | | | |
| SINGLE ACTING | | | | | | | | | | | | | | | | | | | | | | | | | |
| - M spring | | | | | | | | | | | | | | | | | | | | | | | | | |
| (missing for double acting) | | | | | | | | | | | | | | | | | | | | | | | | | |
| OPTIONAL DEVICE | | | | | | | | | | | | | | | | | | | | | | | | | |
| - V handwheel | | | | | | | | | | | | | | | | | | | | | | | | | |
| - R reductor | | | | | | | | | | | | | | | | | | | | | | | | | |
| - H hydraulic pump | | | | | | | | | | | | | | | | | | | | | | | | | |
| - A damper | | | | | | | | | | | | | | | | | | | | | | | | | |
| - Z hydraulic pump and damper | | | | | | | | | | | | | | | | | | | | | | | | | |
| - X special execution | | | | | | | | | | | | | | | | | | | | | | | | | |
| TYPE OF HOUSING | | | | | | | | | | | | | | | | | | | | | | | | | |
| CYLINDER NOMINAL SIZE | | | | | | | | | | | | | | | | | | | | | | | | | |
| NUMBER OF CYLINDER | | | | | | | | | | | | | | | | | | | | | | | | | |
| - S single | | | | | | | | | | | | | | | | | | | | | | | | | |
| - B double | | | | | | | | | | | | | | | | | | | | | | | | | |
| TYPE OF SPRING | | | | | | | | | | | | | | | | | | | | | | | | | |
| - spring code | | | | | | | | | | | | | | | | | | | | | | | | | |
| (missing for double acting or belleville springs) | | | | | | | | | | | | | | | | | | | | | | | | | |
| TEMPERATURE RANGE | | | | | | | | | | | | | | | | | | | | | | | | | |
| - N -20°/+80° | | | | | | | | | | | | | | | | | | | | | | | | | |
| - B -40°/+80° | | | | | | | | | | | | | | | | | | | | | | | | | |
| - A -50°/+60° | | | | | | | | | | | | | | | | | | | | | | | | | |
| - G -60°/+60° | | | | | | | | | | | | | | | | | | | | | | | | | |
| - H -20°/+150° | | | | | | | | | | | | | | | | | | | | | | | | | |
| - S special temperature | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPRING ACTION | | | | | | | | | | | | | | | | | | | | | | | | | |
| - FC close | | | | | | | | | | | | | | | | | | | | | | | | | |
| - FO open | | | | | | | | | | | | | | | | | | | | | | | | | |
| (missing for double acting) | | | | | | | | | | | | | | | | | | | | | | | | | |
| COUPLING | | | | | | | | | | | | | | | | | | | | | | | | | |
| - B bracket | | | | | | | | | | | | | | | | | | | | | | | | | |
| - F flange | | | | | | | | | | | | | | | | | | | | | | | | | |
| FUNCTION | | | | | | | | | | | | | | | | | | | | | | | | | |
| - R modulating | | | | | | | | | | | | | | | | | | | | | | | | | |
| - O on-off | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONTROL CIRCUIT | | | | | | | | | | | | | | | | | | | | | | | | | |
| - P included | | | | | | | | | | | | | | | | | | | | | | | | | |
| - N not included | | | | | | | | | | | | | | | | | | | | | | | | | |

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

SERIES RJO - RSO - RWO - RCO



HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

SERIES RJO - RSO

ACTUATORS TORQUE

SYMMETRIC

| ACTUATOR TYPE | MINIMUM OIL PRESSURE | | | | | | | | | | | | | | | PRESS. MAX. bar | AIR DISPL. lit | APPROX. WEIGHT kg | RJOV-RSOR RJOR-RSOR RATIO % Inside cylinder (1) |
|---------------|----------------------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|--------------------|-------------------|----------------------|---|
| | 50 bar | | | 80 bar | | | 100 bar | | | 120 bar | | | 150 bar | | | | | | |
| | BREAK | RUN | END | BREAK | RUN | END | BREAK | RUN | END | BREAK | RUN | END | BREAK | RUN | END | | | | |
| | 0° Nm | 45° Nm | 90° Nm | 0° Nm | 45° Nm | 90° Nm | 0° Nm | 45° Nm | 90° Nm | 0° Nm | 45° Nm | 90° Nm | 0° Nm | 45° Nm | 90° Nm | | | | |
| RJO 900/40 | 680 | 400 | 680 | 1090 | 650 | 1090 | 1370 | 810 | 1370 | 1640 | 970 | 1640 | 2050 | 1210 | 2050 | 220 | 0,3 | 100 | 0,00 |
| RJO 900/60 | 1540 | 910 | 1540 | 2460 | 1450 | 2460 | 3080 | 1820 | 3080 | 3690 | 2180 | 3690 | 4620 | 2720 | 4620 | 220 | 0,7 | 104 | 0,56 |
| RJO 900/80 | 2740 | 1610 | 2740 | 4380 | 2580 | 4380 | 5470 | 3230 | 5470 | 6570 | 3870 | 6570 | 8210 | 4840 | 8210 | 165 | 1,2 | 110 | 0,75 |
| RJO 900/90 | 3460 | 2040 | 3460 | 5540 | 3270 | 5540 | 6920 | 4090 | 6920 | 8310 | 4900 | 8310 | | | | 130 | 1,5 | 116 | 0,80 |
| RJO 900/100 | 4270 | 2520 | 4270 | 6840 | 4040 | 6840 | 8550 | 5040 | 8550 | | | | | | | 105 | 1,9 | 120 | 0,84 |
| RJO 900/110 | 5170 | 3050 | 5170 | 8270 | 4880 | 8270 | | | | | | | | | | 85 | 2,2 | 125 | 0,87 |
| RJO 900/125 | 6680 | 3940 | 6680 | | | | | | | | | | | | | 65 | 2,9 | 130 | 0,90 |
| RJO 1400/60 | 1810 | 1070 | 1810 | 2900 | 1710 | 2900 | 3620 | 2140 | 3620 | 4340 | 2570 | 4340 | 5430 | 3210 | 5430 | 220 | 0,8 | 172 | 0,44 |
| RJO 1400/80 | 3220 | 1900 | 3220 | 5150 | 3040 | 5150 | 6440 | 3800 | 6440 | 7720 | 4560 | 7720 | 9650 | 5700 | 9650 | 220 | 1,5 | 180 | 0,68 |
| RJO 1400/90 | 4070 | 2410 | 4070 | 6520 | 3850 | 6520 | 8150 | 4810 | 8150 | 9780 | 5770 | 9780 | 12220 | 7220 | 12220 | 170 | 1,9 | 186 | 0,75 |
| RJO 1400/100 | 5030 | 2970 | 5030 | 8050 | 4750 | 8050 | 10060 | 5940 | 10060 | 12070 | 7130 | 12070 | | | | 140 | 2,4 | 190 | 0,80 |
| RJO 1400/110 | 6080 | 3590 | 6080 | 9740 | 5750 | 9740 | 12170 | 7190 | 12170 | | | | | | | 115 | 2,8 | 194 | 0,83 |
| RJO 1400/125 | 7860 | 4640 | 7860 | 12570 | 7420 | 12570 | | | | | | | | | | 90 | 3,7 | 200 | 0,87 |
| RJO 1400/160 | 12870 | 7600 | 12870 | | | | | | | | | | | | | 55 | 4,6 | 210 | 0,92 |
| RSO 2500/80 | 4180 | 2470 | 4180 | 6690 | 3950 | 6690 | 8370 | 4940 | 8370 | 10040 | 5930 | 10040 | 12550 | 7410 | 12550 | 220 | 1,8 | 330 | 0,23 |
| RSO 2500/90 | 5290 | 3120 | 5290 | 8470 | 5000 | 8470 | 10590 | 6250 | 10590 | 12710 | 7500 | 12710 | 15880 | 9370 | 15880 | 220 | 2,3 | 336 | 0,40 |
| RSO 2500/100 | 6540 | 3860 | 6540 | 10460 | 6170 | 10460 | 13070 | 7720 | 13070 | 15690 | 9260 | 15690 | 19610 | 11570 | 19610 | 190 | 2,8 | 340 | 0,51 |
| RSO 2500/110 | 7910 | 4670 | 7910 | 12660 | 7470 | 12660 | 15820 | 9340 | 15820 | 18980 | 11200 | 18980 | 23730 | 14000 | 23730 | 160 | 3,4 | 344 | 0,60 |
| RSO 2500/125 | 10210 | 6030 | 10210 | 16340 | 9640 | 16340 | 20430 | 12060 | 20430 | 24510 | 14470 | 24510 | | | | 120 | 4,5 | 350 | 0,69 |
| RSO 2500/140 | 12810 | 7560 | 12810 | 20500 | 12100 | 20500 | 25630 | 15120 | 25630 | | | | | | | 100 | 5,6 | 360 | 0,75 |
| RSO 2500/160 | 16730 | 9880 | 16730 | | | | | | | | | | | | | 75 | 7,3 | 370 | 0,81 |
| RSO 2500/180 | 21180 | 12500 | 21180 | | | | | | | | | | | | | 60 | 9,0 | 410 | 0,85 |
| RSO 4500/100 | 8550 | 5060 | 8550 | 13680 | 8100 | 13680 | 17100 | 10120 | 17100 | 20520 | 12150 | 20520 | 25650 | 15180 | 25650 | 220 | 3,6 | 470 | 0,36 |
| RSO 4500/110 | 10340 | 6120 | 10340 | 16550 | 9800 | 16550 | 20690 | 12250 | 20690 | 24820 | 14700 | 24820 | 31030 | 18370 | 31030 | 220 | 4,4 | 474 | 0,47 |
| RSO 4500/125 | 13360 | 7910 | 13360 | 21370 | 12650 | 21370 | 26710 | 15810 | 26710 | 32060 | 18980 | 32060 | 40070 | 23720 | 40070 | 170 | 5,7 | 480 | 0,59 |
| RSO 4500/140 | 16750 | 9920 | 16750 | 26810 | 15870 | 26810 | 33510 | 19840 | 33510 | 40210 | 23810 | 40210 | | | | 135 | 7,1 | 490 | 0,67 |
| RSO 4500/160 | 21880 | 12960 | 21880 | 35010 | 20730 | 35010 | 43770 | 25910 | 43770 | | | | | | | 105 | 9,3 | 500 | 0,75 |
| RSO 4500/180 | 27700 | 16400 | 27700 | 44310 | 26230 | 44310 | | | | | | | | | | 80 | 11,8 | 540 | 0,80 |
| RSO 7500/110 | 13690 | 8080 | 13690 | 21900 | 12930 | 21900 | 27380 | 16160 | 27380 | 32860 | 19390 | 32860 | 41070 | 24240 | 41070 | 220 | 6,0 | 770 | 0,33 |
| RSO 7500/125 | 17680 | 10440 | 17680 | 28290 | 16700 | 28290 | 35360 | 20870 | 35360 | 42430 | 25040 | 42430 | 53030 | 31310 | 53030 | 210 | 7,7 | 780 | 0,48 |
| RSO 7500/140 | 22180 | 13090 | 22180 | 35480 | 20940 | 35480 | 44350 | 26180 | 44350 | 53220 | 31420 | 53220 | 66530 | 39270 | 66530 | 170 | 9,6 | 790 | 0,59 |
| RSO 7500/160 | 28960 | 17100 | 28960 | 46340 | 27350 | 46340 | 57930 | 34190 | 57930 | 69510 | 41030 | 69510 | | | | 130 | 12,6 | 810 | 0,68 |
| RSO 7500/180 | 36660 | 21640 | 36660 | 58650 | 34620 | 58650 | 73320 | 43280 | 73320 | | | | | | | 100 | 15,9 | 840 | 0,75 |
| RSO 7500/200 | 45260 | 26710 | 45260 | 72410 | 42740 | 72410 | | | | | | | | | | 85 | 19,7 | 900 | 0,80 |

(1) FOR EXECUTION WITH HANDWHEEL OR REDUCTOR, TORQUE REDUCTION COEFFICIENT FOR THE INNER CHAMBER (SIDE WITH ROD)

EXAMPLE (WITH OIL PRESSURE 100 bar) - ACTUATOR TYPE RSO 2500/80 - COEFFICIENT = 0,23
 STANDARD EXECUTION: BREAK 8370 Nm - RUN 4940 Nm - END 8370 Nm
 WITH HANDWHEEL AND REDUCTOR: BREAK 8370 x 0,23 = 1925 Nm - RUN 4940 x 0,23 = 1136 Nm - END 8370 x 0,23 = 1925 Nm

RSO/...
HIGHER TORQUES ON REQUEST ACCORDING TO CUSTOMER SPECIFICATION

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

SERIES RWO - RCO

ACTUATORS TORQUE

CANTED

| ACTUATOR TYPE | MINIMUM OIL PRESSURE | | | | | | | | | | | | | | | PRES. MAX. bar | AIR DISPLAC lit | APPROX. WEIGHT kg | RWOV-RCOV RATOR-RCOR RATIO % Inside cylinder (1) |
|------------------|----------------------|------------------|------------------|-------------------|------------------|------------------|-------------------|------------------|------------------|-------------------|------------------|------------------|-------------------|------------------|------------------|----------------------|-----------------------|-------------------------|--|
| | 50 bar | | | 80 bar | | | 100 bar | | | 120 bar | | | 150 bar | | | | | | |
| | BREAK 0° Nm | RUN 45° Nm | END 90° Nm | BREAK 0° Nm | RUN 45° Nm | END 90° Nm | BREAK 0° Nm | RUN 45° Nm | END 90° Nm | BREAK 0° Nm | RUN 45° Nm | END 90° Nm | BREAK 0° Nm | RUN 45° Nm | END 90° Nm | | | | |
| RWO 900/40 | 900 | 410 | 560 | 1440 | 660 | 900 | 1790 | 820 | 1130 | 2150 | 980 | 1350 | 2690 | 1230 | 1690 | 220 | 0,3 | 100 | 0,00 |
| RWO 900/60 | 2020 | 920 | 1270 | 3230 | 1470 | 2030 | 4040 | 1840 | 2530 | 4840 | 2210 | 3040 | 6050 | 2770 | 3800 | 220 | 0,7 | 104 | 0,56 |
| RWO 900/80 | 3590 | 1640 | 2250 | 5740 | 2620 | 3600 | 7180 | 3280 | 4500 | 8610 | 3930 | 5400 | | | | 125 | 1,2 | 110 | 0,75 |
| RWO 900/90 | 4540 | 2070 | 2850 | 7260 | 3320 | 4560 | 9080 | 4150 | 5700 | | | | | | | 100 | 1,5 | 116 | 0,80 |
| RWO 900/100 | 5610 | 2560 | 3520 | 8970 | 4100 | 5630 | | | | | | | | | | 80 | 1,9 | 120 | 0,84 |
| RWO 900/110 | 6780 | 3100 | 4260 | | | | | | | | | | | | | 65 | 2,2 | 125 | 0,87 |
| RWO 900/125 | 8760 | 4000 | 5500 | | | | | | | | | | | | | 50 | 2,9 | 130 | 0,90 |
| RWO 1400/60 | 2370 | 1080 | 1490 | 3800 | 1740 | 2380 | 4750 | 2170 | 2980 | 5700 | 2600 | 3580 | 7120 | 3250 | 4470 | 220 | 0,8 | 172 | 0,44 |
| RWO 1400/80 | 4220 | 1930 | 2650 | 6750 | 3080 | 4240 | 8440 | 3860 | 5300 | 10130 | 4630 | 6360 | 12660 | 5780 | 7950 | 165 | 1,5 | 180 | 0,68 |
| RWO 1400/90 | 5340 | 2440 | 3350 | 8550 | 3900 | 5360 | 10680 | 4880 | 6710 | 12820 | 5860 | 8050 | | | | 130 | 1,9 | 186 | 0,75 |
| RWO 1400/100 | 6590 | 3010 | 4140 | 10550 | 4820 | 6620 | 13190 | 6030 | 8280 | | | | | | | 105 | 2,4 | 190 | 0,80 |
| RWO 1400/110 | 7980 | 3650 | 5010 | 12770 | 5830 | 8010 | | | | | | | | | | 90 | 2,8 | 194 | 0,83 |
| RWO 1400/125 | 10300 | 4710 | 6470 | | | | | | | | | | | | | 70 | 3,7 | 200 | 0,87 |
| RWO 1400/140 | 12930 | 5900 | 8110 | | | | | | | | | | | | | 55 | 4,6 | 210 | 0,90 |
| RCO 2500/80 | 5490 | 2510 | 3440 | 8780 | 4010 | 5510 | 10970 | 5010 | 6890 | 13170 | 6020 | 8260 | 16460 | 7520 | 10330 | 220 | 1,8 | 330 | 0,23 |
| RCO 2500/90 | 6940 | 3170 | 4360 | 11110 | 5080 | 6970 | 13890 | 6340 | 8720 | 16670 | 7610 | 10460 | 20830 | 9520 | 13080 | 180 | 2,3 | 336 | 0,40 |
| RCO 2500/100 | 8570 | 3920 | 5380 | 13720 | 6270 | 8610 | 17150 | 7830 | 10760 | 20580 | 9400 | 12910 | 25720 | 11750 | 16140 | 150 | 2,8 | 340 | 0,51 |
| RCO 2500/110 | 10370 | 4740 | 6510 | 16600 | 7580 | 10420 | 20750 | 9480 | 13020 | 24900 | 11370 | 15630 | | | | 120 | 3,4 | 344 | 0,60 |
| RCO 2500/125 | 13400 | 6120 | 8410 | 21430 | 9790 | 13450 | | | | | | | | | | 90 | 4,5 | 350 | 0,69 |
| RCO 2500/140 | 16800 | 7680 | 10550 | | | | | | | | | | | | | 75 | 5,6 | 360 | 0,75 |
| RCO 2500/160 | 21950 | 10030 | 13770 | | | | | | | | | | | | | 55 | 7,3 | 370 | 0,81 |
| RCO 4500/100 | 11210 | 5120 | 7040 | 17940 | 8190 | 11260 | 22420 | 10240 | 14070 | 26910 | 12290 | 16890 | 33630 | 15360 | 21110 | 200 | 3,6 | 470 | 0,36 |
| RCO 4500/110 | 13570 | 6200 | 8510 | 21700 | 9920 | 13620 | 27130 | 12390 | 17030 | 32560 | 14870 | 20430 | 40700 | 18590 | 25540 | 165 | 4,4 | 474 | 0,47 |
| RCO 4500/125 | 17520 | 8000 | 10990 | 28030 | 12800 | 17590 | 35040 | 16000 | 21990 | 42040 | 19210 | 26390 | | | | 130 | 5,7 | 480 | 0,59 |
| RCO 4500/140 | 21970 | 10040 | 13790 | 35160 | 16060 | 22070 | 43950 | 20080 | 27580 | | | | | | | 100 | 7,1 | 490 | 0,67 |
| RCO 4500/160 | 28700 | 13110 | 18010 | 45920 | 20980 | 28820 | | | | | | | | | | 80 | 9,3 | 500 | 0,75 |
| RCO 4500/180 | 36320 | 16590 | 22800 | | | | | | | | | | | | | 60 | 11,8 | 540 | 0,80 |
| RCO 7500/110 | 17950 | 8200 | 11270 | 28730 | 13120 | 18030 | 35910 | 16400 | 22540 | 43090 | 19680 | 27040 | 53860 | 24610 | 33810 | 210 | 6,0 | 770 | 0,33 |
| RCO 7500/125 | 23180 | 10590 | 14550 | 37100 | 16950 | 23280 | 46370 | 21180 | 29100 | 55640 | 25420 | 34920 | 69550 | 31770 | 43650 | 160 | 7,7 | 780 | 0,48 |
| RCO 7500/140 | 29080 | 13290 | 18250 | 46530 | 21260 | 29210 | 58170 | 26570 | 36510 | 69800 | 31890 | 43810 | | | | 130 | 9,6 | 790 | 0,59 |
| RCO 7500/160 | 37990 | 17350 | 23840 | 60780 | 27760 | 38150 | 75970 | 34700 | 47680 | | | | | | | 100 | 12,6 | 810 | 0,68 |
| RCO 7500/180 | 48080 | 21960 | 30170 | | | | | | | | | | | | | 80 | 15,9 | 840 | 0,75 |
| RCO 7500/200 | 59350 | 27110 | 37250 | | | | | | | | | | | | | 60 | 19,7 | 900 | 0,80 |

(1) FOR EXECUTION WITH HANDWHEEL OR REDUCTOR, TORQUE REDUCTION COEFFICIENT FOR THE INNER CHAMBER (SIDE WITH ROD)

EXAMPLE (WITH OIL PRESSURE 100 bar) - ACTUATOR TYPE RCO 2500/80 - COEFFICIENT = 0,23

STANDARD EXECUTION: BREAK 10970 Nm - RUN 5010 Nm - END 6890 Nm

WITH HANDWHEEL AND REDUCTOR: BREAK 10970 x 0,23 = 2523 Nm - RUN 5010 x 0,23 = 1152 Nm - END 6890 x 0,23 = 1585 Nm

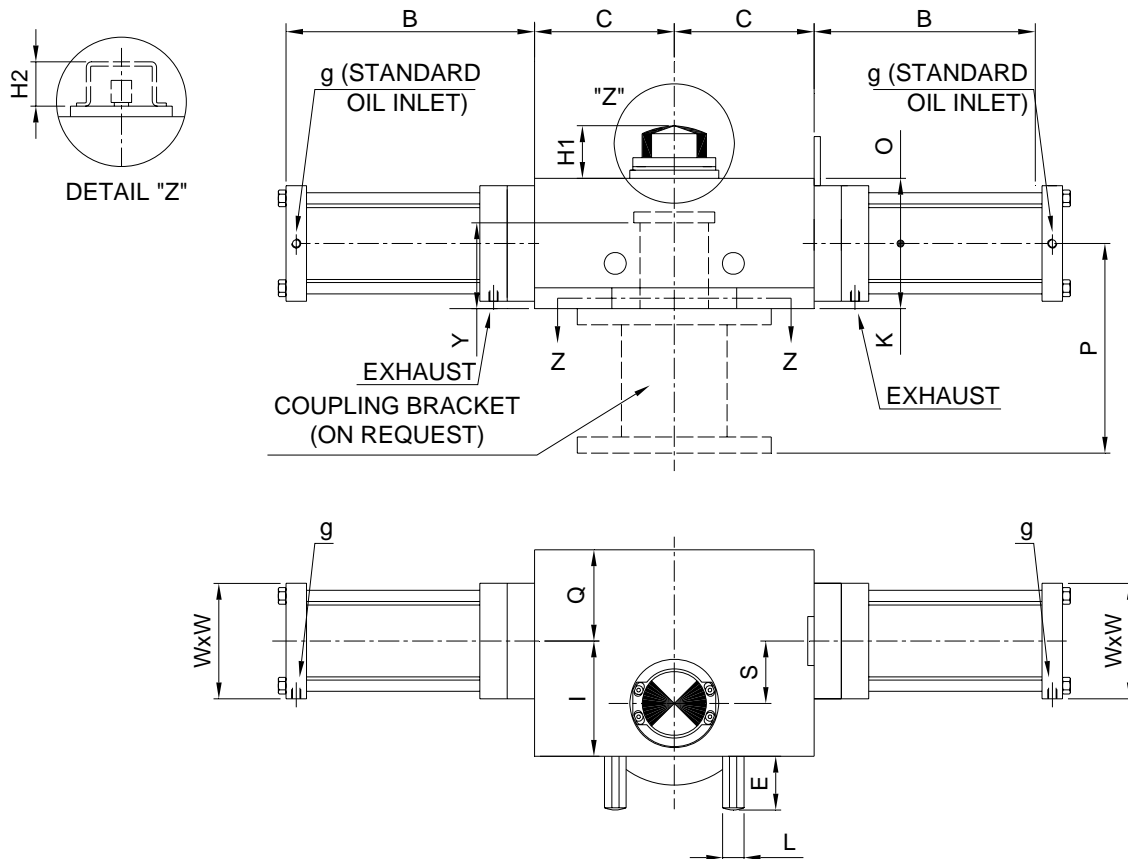
RCO/...

HIGHER TORQUES ON REQUEST ACCORDING TO CUSTOMER SPECIFICATION

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

TYPE RJO - RWO



ACTUATOR DIMENSIONS (mm)

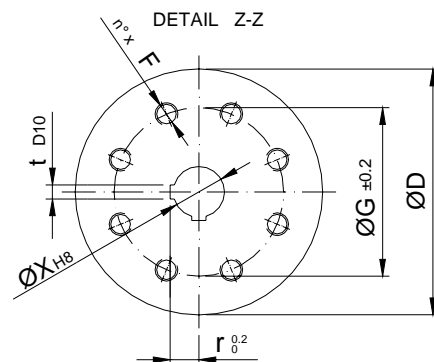
| | B | C | E | H1 | H2 | I | K | L | O | Q | S | Y | g |
|--------------|-----|-----|----|----|----|-----|-----|----|-----|-----|-----|-----|-----|
| RWO 900/... | 360 | 240 | 60 | 55 | 45 | 195 | 120 | 36 | 100 | 145 | 85 | 100 | ¼ G |
| RJO 900/... | | | | | | | | | | | | | |
| RWO 1400/... | 400 | 285 | 70 | 55 | 45 | 230 | 125 | 46 | 110 | 165 | 100 | 120 | ¼ G |
| RJO 1400/... | | | | | | | | | | | | | |

FLANGE DIMENSIONS (mm)

| | D | n° x F | G | X | r | t | ISO | ON REQUEST | | | |
|--------------|-----|----------|-----|----|------|----|------|------------|------|------|------|
| | | | | | | | | MIN. | MAX. | Xmin | Xmax |
| RWO 900/... | 300 | 4 x M 20 | 165 | 60 | 34,4 | 18 | F 16 | F 14 | F 25 | 45 | 65 |
| RJO 900/... | | | | | | | | | | | |
| RWO 1400/... | 350 | 8 x M 16 | 254 | 80 | 45,4 | 22 | F 25 | F 16 | F 30 | 65 | 90 |
| RJO 1400/... | | | | | | | | | | | |

CYLINDER DIAMETER (mm)

| TYPE OF CYLINDER | 40 | 60 | 80 | 90 | 100 | 110 | 125 | 140 |
|------------------|----|-----|-----|-----|-----|-----|-----|-----|
| DIMENSION "W" | 80 | 110 | 140 | 170 | 170 | 180 | 210 | 230 |



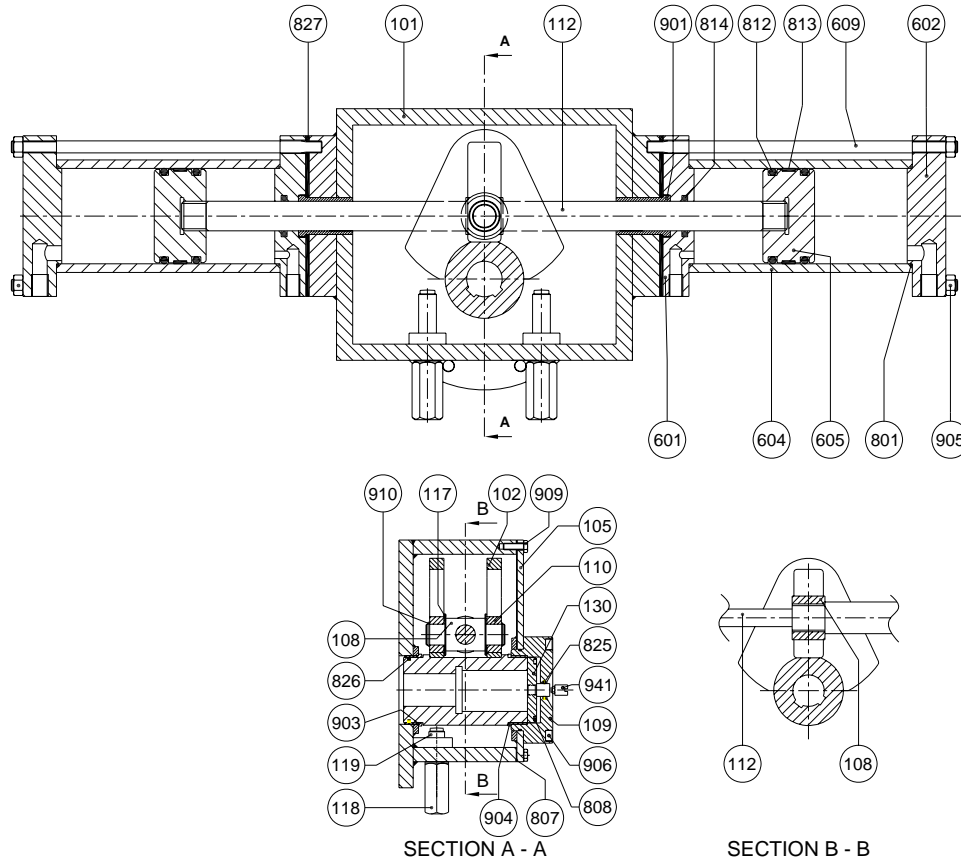
ON REQUEST ISO MALE SPIGOT

"H1" - STANDARD INDEX
 "H2" - MOUNTING KIT ACCORDING TO VDI-VDE 3845 (ON REQUEST)
 "P" - BRACKET ACCORDING TO CUSTOMER REQUIREMENT (ON REQUEST)

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

TYPE RJO - RWO



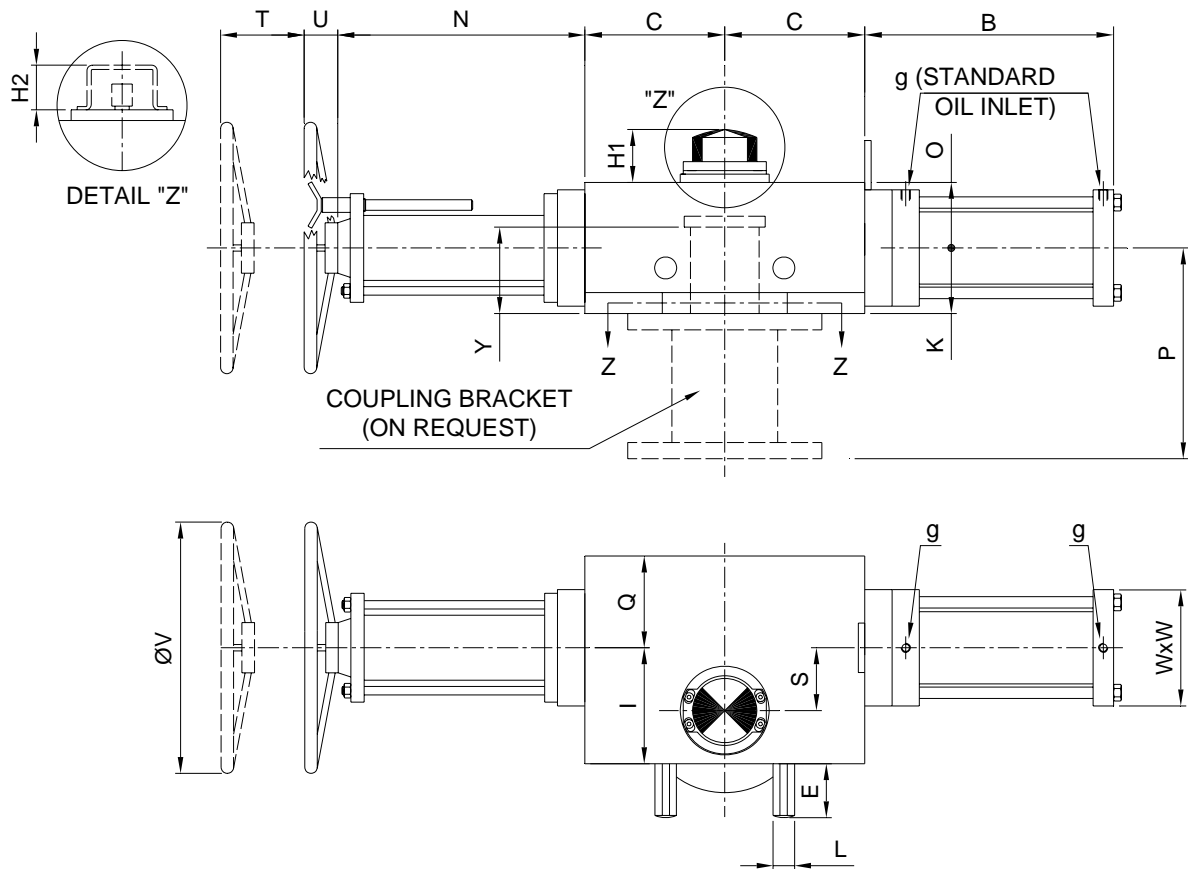
| POS. | DESCRIPTION | MATERIAL | POS. | DESCRIPTION | MATERIAL |
|-------|-----------------------------|--------------------|-------|---------------|---------------------|
| 101 | HOUSING | S 275 JR EN 10025 | • 807 | COVER GASKET | N.B.R. |
| 102 | LINK | S 275 JR EN 10025 | • 808 | O-RING | N.B.R. |
| 105 | COVER | S 275 JR EN 10025 | • 812 | PISTON GASKET | POLYURETHANE |
| 108 | LINK JOINT | C 40 EN 10083/2 | • 813 | PISTON DRIVE | PTFE+GRAPHITE |
| 109 | COVER | S 275 JR EN 10025 | • 814 | LIP GASKET | POLYURETHANE |
| 110 | SLIDING RING | BzAl EN 1982 | • 825 | O-RING | N.B.R. |
| 112 | CHROM. SHAFT | 42CrMo4 EN 10083/1 | • 826 | O-RING | N.B.R. |
| 117 | WASHER | CW 612 N EN 12164 | • 827 | GASKET | N.B.R. |
| 118 | CAP | S 275 JR EN 10025 | 901 | BUSHING | STEEL/BRONZE/TEFLON |
| 119 | STOP SCREW | 8.8 EN 898/1 | 902 | BUSHING | STEEL/BRONZE/TEFLON |
| 130 | LINK CAP | S 275 JR EN 10025 | 903 | BUSHING | STEEL/BRONZE/TEFLON |
| 601 | HEAD | S 275 JR EN 10025 | 904 | BUSHING | STEEL/BRONZE/TEFLON |
| 602 | HEAD | S 275 JR EN 10025 | 905 | NUT | 6 S EN 20898/2 |
| 604 | CYLINDER (int. chr. plated) | E 355 EN 10297/1 | 906 | SCREW | 8.8 EN 898/1 |
| 605 | PISTON | S 275 JR EN 10025 | 909 | SCREW | 8.8 EN 898/1 |
| 609 | STAY BOLT | 42CrMo4 EN 10269 | 910 | SEEGER | ALLOY STEEL |
| • 801 | O-RING | N.B.R. | 941 | NAMUR PIN | AISI 316 |

• STANDARD SPARE PARTS

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING WITH HANDWHEEL

TYPE RJOV - RWOV



ACTUATOR DIMENSIONS (mm)

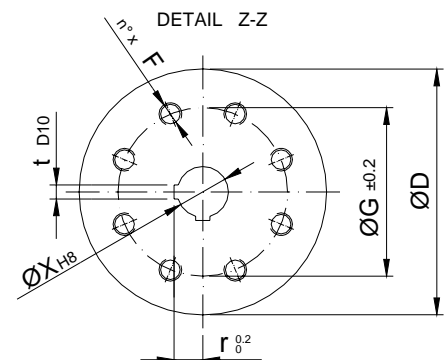
| | B | C | E | H1 | H2 | I | K | L | N | O | Q | S | T | U | V | Y | g |
|---------------|-----|-----|----|----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RWOV 900/... | 360 | 240 | 60 | 55 | 45 | 195 | 120 | 36 | 350 | 100 | 145 | 85 | 190 | 100 | 500 | 100 | ¼ G |
| RJOV 900/... | | | | | | | | | | | | | | | | | |
| RWOV 1400/... | 400 | 285 | 70 | 55 | 45 | 230 | 125 | 46 | 400 | 110 | 165 | 100 | 250 | 100 | 600 | 120 | ¼ G |
| RJOV 1400/... | | | | | | | | | | | | | | | | | |

FLANGE DIMENSIONS (mm)

| | D | n° x F | G | X | r | t | ISO | ON REQUEST | | | | | |
|---------------|-----|----------|-----|----|------|----|------|------------|------|------|------|--|--|
| | | | | | | | | MIN. | MAX. | Xmin | Xmax | | |
| RWOV 900/... | 300 | 4 x M 20 | 165 | 60 | 34,4 | 18 | F 16 | F 14 | F 25 | 45 | 65 | | |
| RJOV 900/... | | | | | | | | | | | | | |
| RWOV 1400/... | 350 | 8 x M 16 | 254 | 80 | 45,4 | 22 | F 25 | F 16 | F 30 | 65 | 90 | | |
| RJOV 1400/... | | | | | | | | | | | | | |

CYLINDER DIAMETER (mm)

| TYPE OF CYLINDER | 40 | 60 | 80 | 90 | 100 | 110 | 125 | 140 |
|------------------|----|-----|-----|-----|-----|-----|-----|-----|
| DIMENSION "W" | 80 | 110 | 140 | 170 | 170 | 180 | 210 | 230 |



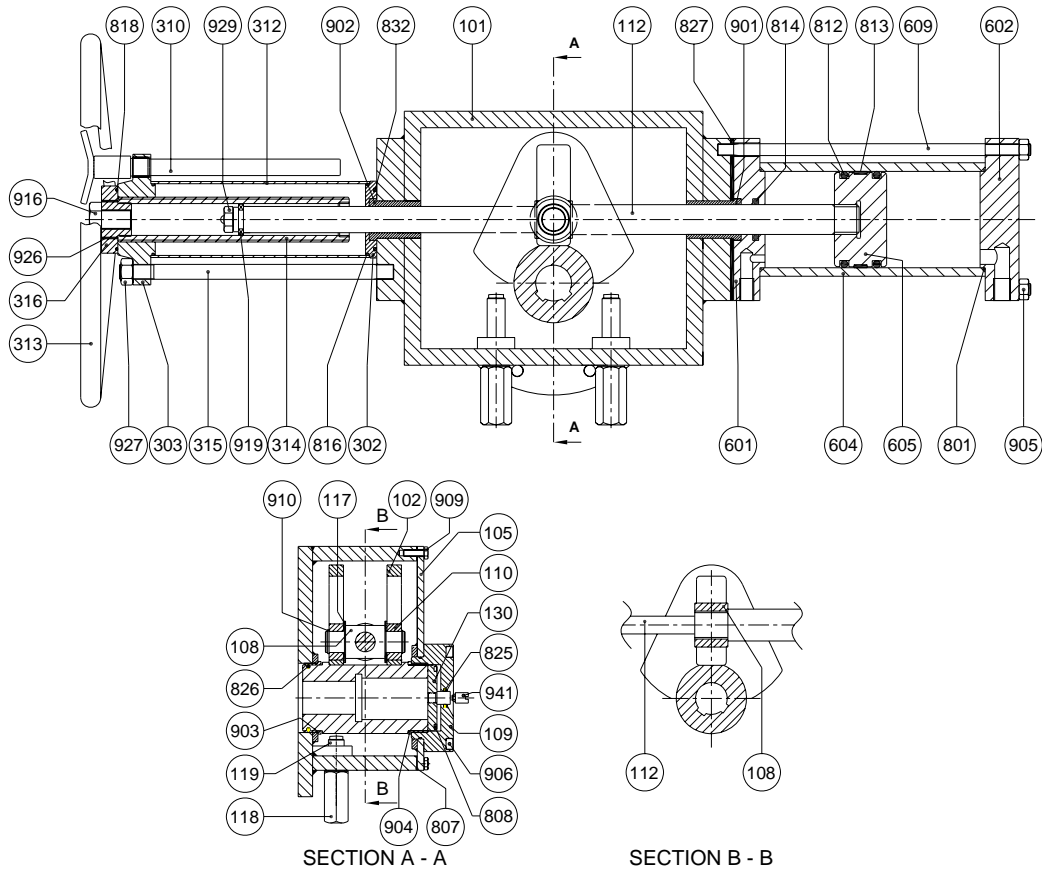
"H1" - STANDARD INDEX
 "H2" - MOUNTING KIT ACCORDING TO VDI-VDE 3845 (ON REQUEST)
 "P" - BRACKET ACCORDING TO CUSTOMER REQUIREMENT (ON REQUEST)

ON REQUEST ISO MALE SPIGOT

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING WITH HANDWHEEL

TYPE RJOV - RWOV



POS. DESCRIPTION

MATERIAL

| | | | |
|-----|-----------------------------|-----------|------------|
| 101 | HOUSING | S 275 JR | EN 10025 |
| 102 | LINK | S 275 JR | EN 10025 |
| 105 | COVER | S 275 JR | EN 10025 |
| 108 | LINK JOINT | C 40 | EN 10083/2 |
| 109 | COVER | S 275 JR | EN 10025 |
| 110 | SLIDING RING | BzAl | EN 1982 |
| 112 | CHROM. SHAFT | 42CrMo4 | EN 10083/1 |
| 117 | WASHER | CW 614 N | EN 12164 |
| 118 | CAP | S 275 JR | EN 10025 |
| 119 | STOP SCREW | 8.8 | EN 898/1 |
| 130 | LINK CAP | S 275 JR | EN 10025 |
| 601 | HEAD | S 275 JR | EN 10025 |
| 602 | HEAD | S 275 JR | EN 10025 |
| 604 | CYLINDER (int. chr. plated) | E 355 | EN 10297/1 |
| 605 | PISTON | S 275 JR | EN 10025 |
| 609 | STAY BOLT | 42CrMo4 | EN 10269 |
| 302 | INTERNAL FLANGE | S 275 JR | EN 10025 |
| 303 | SCREW THREAD FLANGE | GS 400/12 | EN 1563 |
| 310 | PIN | X20Cr13 | EN 10088 |
| 312 | TUBE | E 235 SR | EN 10305/1 |
| 313 | HANDWHEEL | E 235 SR | EN 10305/1 |
| 314 | DRIVE NUT | BSZN5 | EN 1982 |
| 315 | STAY BOLT | C 40 | EN 10083/2 |
| 316 | RING NUT | S 275 JR | EN 10025 |

POS. DESCRIPTION

MATERIAL

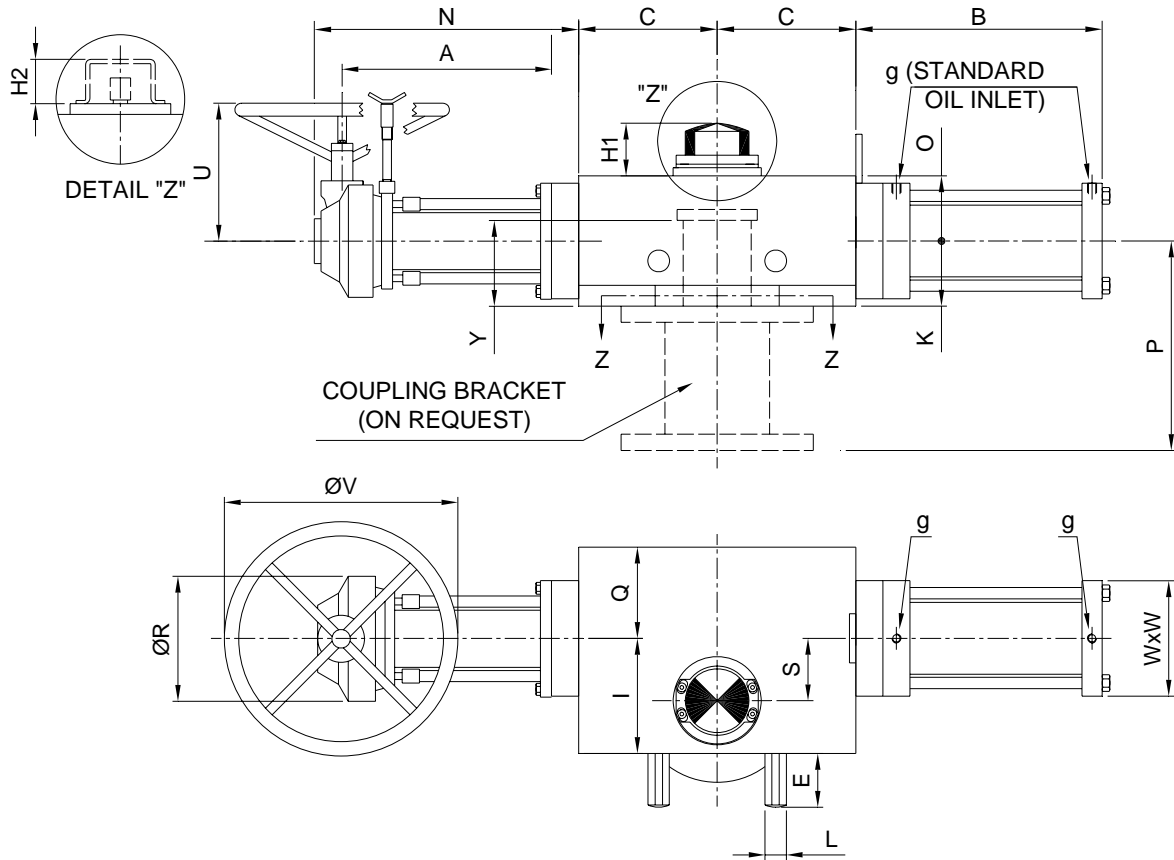
| | | |
|-------|----------------|---------------------|
| • 801 | O-RING | N.B.R. |
| • 807 | COVER GASKET | N.B.R. |
| • 808 | O-RING | N.B.R. |
| • 812 | PISTON GASKET | POLYURETHANE |
| • 813 | PISTON DRIVE | PTFE+GRAPHITE |
| • 814 | O-RING | N.B.R. |
| • 816 | O-RING | N.B.R. |
| • 818 | O-RING | N.B.R. |
| • 825 | O-RING | N.B.R. |
| • 826 | O-RING | N.B.R. |
| • 827 | GASKET | N.B.R. |
| • 832 | O-RING | N.B.R. |
| 901 | BUSHING | STEEL/BRONZE/TEFLON |
| 902 | BUSHING | STEEL/BRONZE/TEFLON |
| 903 | BUSHING | STEEL/BRONZE/TEFLON |
| 904 | BUSHING | STEEL/BRONZE/TEFLON |
| 905 | NUT | 6 S EN 20898/2 |
| 906 | SCREW | 8.8 EN 898/1 |
| 909 | SCREW | 8.8 EN 898/1 |
| 910 | SEEGER | ALLOY STEEL |
| 916 | SCREW | NYLON |
| 919 | ROLLER BEARING | ALLOY STEEL |
| 926 | DOWEL | 8.8 EN 898/1 |
| 927 | NUT | 6 S EN 20898/2 |
| 929 | SCREW | 8.8 EN 898/1 |
| 941 | NAMUR PIN | AISI 316 |

• **STANDARD SPARE PARTS**

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING WITH MANUAL REDUCTOR

TYPE RJOR - RWOR



ACTUATOR DIMENSIONS (mm)

| | A | B | C | E | H1 | H2 | I | K | L | N | O | Q | R | S | U | V | Y | g |
|---------------|-----|-----|-----|----|----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RWOR 1400/... | 500 | 400 | 285 | 70 | 55 | 45 | 230 | 125 | 46 | 655 | 110 | 165 | 270 | 100 | 330 | 800 | 150 | ¼ G |
| RJOR 1400/... | | | | | | | | | | | | | | | | | | |

FLANGE DIMENSIONS (mm)

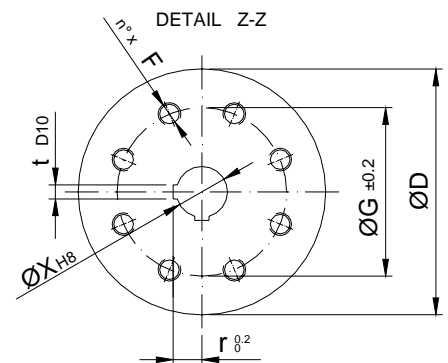
| | D | n° x F | G | X | r | t | ISO |
|---------------|-----|----------|-----|----|------|----|------|
| RWOR 1400/... | 350 | 8 x M 16 | 254 | 80 | 45,4 | 22 | F 25 |
| RJOR 1400/... | | | | | | | |

ON REQUEST

| MIN. | MAX. | Xmin | Xmax |
|------|------|------|------|
| F 16 | F 30 | 65 | 90 |

CYLINDER DIAMETER (mm)

| TYPE OF CYLINDER | 40 | 60 | 80 | 90 | 100 | 110 | 125 | 140 |
|------------------|----|-----|-----|-----|-----|-----|-----|-----|
| DIMENSION "W" | 80 | 110 | 140 | 170 | 170 | 180 | 210 | 230 |



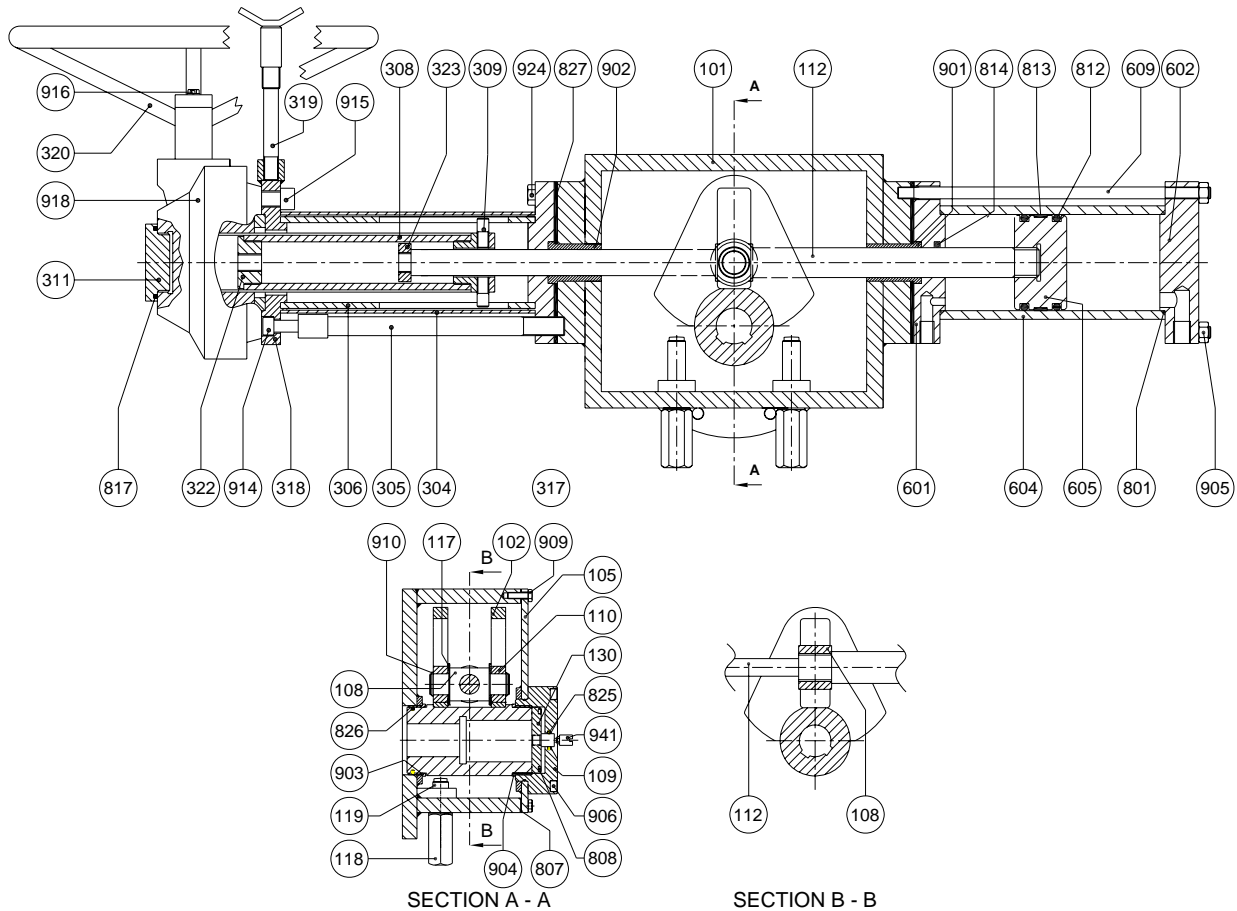
ON REQUEST ISO MALE SPIGOT

- "H1" - STANDARD INDEX
- "H2" - MOUNTING KIT ACCORDING TO VDI-VDE 3845 (ON REQUEST)
- "P" - BRACKET ACCORDING TO CUSTOMER REQUIREMENT (ON REQUEST)

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING WITH MANUAL GEAR

TYPE RJOR - RWOR



POS. DESCRIPTION

MATERIAL

| | | | |
|-----|-----------------------------|-----------|------------|
| 101 | HOUSING | S 275 JR | EN 10025 |
| 102 | LINK | S 275 JR | EN 10025 |
| 105 | COVER | S 275 JR | EN 10025 |
| 108 | LINK JOINT | C 40 | EN 10083/2 |
| 109 | COVER | S 275 JR | EN 10025 |
| 110 | SLIDING RING | BzAl | EN 1982 |
| 112 | CHROM. SHAFT | 42CrMo4 | EN 10083/1 |
| 117 | WASHER | CW 614 N | EN 12164 |
| 118 | CAP | S 275 JR | EN 10025 |
| 119 | STOP SCREW | 8.8 | EN 898/1 |
| 130 | LINK CAP | S 275 JR | EN 10025 |
| 601 | HEAD | S 275 JR | EN 10025 |
| 602 | HEAD | S 275 JR | EN 10025 |
| 604 | CYLINDER (int. chr. plated) | E 355 | EN 10297/1 |
| 605 | PISTON | S 275 JR | EN 10025 |
| 609 | STAY BOLT | 42CrMo4 | EN 10269 |
| 304 | TUBE | E 235 SR | EN 10305/1 |
| 305 | SAFETY TUBE | E 235 SR | EN 10305/1 |
| 306 | TUBE | E 235 SR | EN 10305/1 |
| 308 | DRIVE NUT | CAST IRON | EN 1563 |
| 309 | PIN | C 40 | EN 10083/2 |
| 311 | CAP | ALUMINIUM | |
| 317 | INTERNAL FLANGE | S 275 JR | EN 10025 |
| 318 | EXTERNAL FLANGE | S 275 JR | EN 10025 |
| 319 | PIN | X20Cr13 | EN 10088 |
| 320 | HANDWHEEL | E 235 SR | EN 10305/1 |

POS. DESCRIPTION

MATERIAL

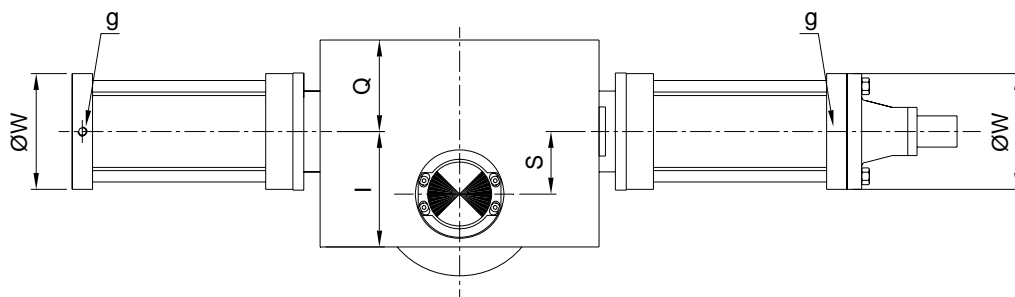
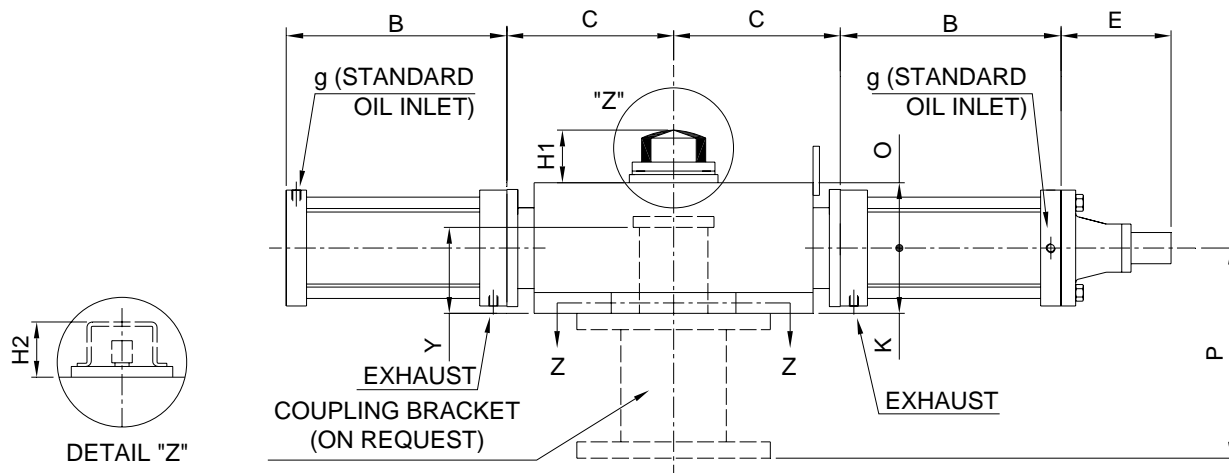
| | | | |
|-------|---------------|---------------------|------------|
| 322 | HUB | C 40 | EN 10083/2 |
| 323 | RING NUT | C 40 | EN 10083/2 |
| • 801 | O-RING | N.B.R. | |
| • 807 | COVER GASKET | N.B.R. | |
| • 808 | O-RING | N.B.R. | |
| • 812 | PISTON GASKET | POLYURETHANE | |
| • 813 | PISTON DRIVE | PTFE+GRAPHITE | |
| • 814 | O-RING | N.B.R. | |
| • 817 | O-RING | N.B.R. | |
| • 825 | O-RING | N.B.R. | |
| • 826 | O-RING | N.B.R. | |
| • 827 | GASKET | N.B.R. | |
| 901 | BUSHING | STEEL/BRONZE/TEFLON | |
| 902 | BUSHING | STEEL/BRONZE/TEFLON | |
| 903 | BUSHING | STEEL/BRONZE/TEFLON | |
| 904 | BUSHING | STEEL/BRONZE/TEFLON | |
| 905 | NUT | 6 S | EN 20898/2 |
| 906 | SCREW | 8.8 | EN 898/1 |
| 909 | SCREW | 8.8 | EN 898/1 |
| 910 | SEEGER | ALLOY STEEL | |
| 914 | SCREW | 8.8 | EN 898/1 |
| 915 | SCREW | 8.8 | EN 898/1 |
| 916 | SCREW | 8.8 | EN 898/1 |
| 918 | REDUCTOR | CAST IRON | EN 1563 |
| 924 | SCREW | 8.8 | EN 898/1 |
| 941 | NAMUR PIN | AIISI 316 | |

• **STANDARD SPARE PARTS**

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

TYPE RSO - RCO



ACTUATOR DIMENSIONS (mm)

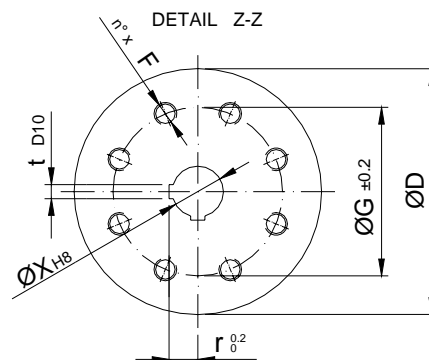
| | B | C | E | H1 | H2 | I | K | O | Q | S | Y | g |
|--------------|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|
| RSO 2500/... | 490 | 355 | 190 | 55 | 45 | 240 | 170 | 130 | 180 | 130 | 150 | ½ G |
| RCO 2500/... | | | | | | | | | | | | |
| RSO 4500/... | 610 | 465 | 220 | 55 | 45 | 295 | 155 | 155 | 255 | 170 | 170 | ½ G |
| RCO 4500/... | | | | | | | | | | | | |
| RSO 7500/... | 740 | 610 | 300 | 55 | 45 | 385 | 235 | 185 | 325 | 225 | 220 | ¾ G |
| RCO 7500/... | | | | | | | | | | | | |

FLANGE DIMENSIONS (mm)

| | D | n° x F | G | X | r | t | ISO | ON REQUEST | | | |
|--------------|-----|----------|-----|-----|------|----|------|------------|------|------|------|
| | | | | | | | | MIN. | MAX. | Xmin | Xmax |
| RSO 2500/... | 415 | 8 x M 20 | 298 | 90 | 50,4 | 25 | F 30 | F 25 | F 35 | 65 | 100 |
| RCO 2500/... | | | | | | | | | | | |
| RSO 4500/... | 475 | 8 x M 30 | 356 | 120 | 67,4 | 32 | F 35 | F 30 | F 40 | 90 | 130 |
| RCO 4500/... | | | | | | | | | | | |
| RSO 7500/... | 560 | 8 x M 36 | 406 | 150 | 83,4 | 36 | F 40 | F 35 | F 48 | 145 | 160 |
| RCO 7500/... | | | | | | | | | | | |

CYLINDER DIAMETER (mm)

| TYPE OF CYLINDER | 80 | 90 | 100 | 110 | 125 | 140 | 160 | 180 | 200 | 220 |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| DIMENSION "W" | 140 | 170 | 170 | 190 | 210 | 230 | 230 | 300 | 320 | 340 |



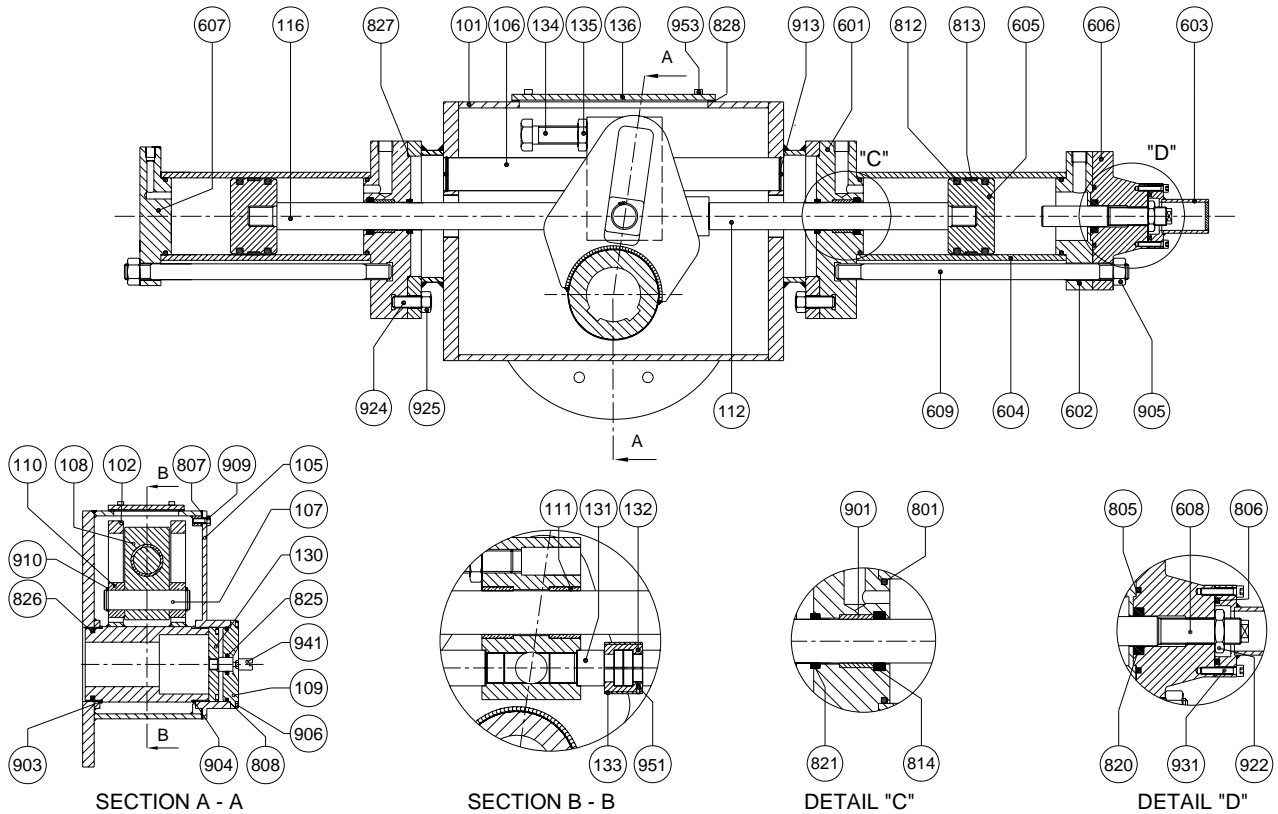
"H1" - STANDARD INDEX
 "H2" - MOUNTING KIT ACCORDING TO VDI-VDE 3845 (ON REQUEST)
 "P" - BRACKET ACCORDING TO CUSTOMER REQUIREMENT (ON REQUEST)

ON REQUEST ISO MALE SPIGOT

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

TYPE RSO - RCO



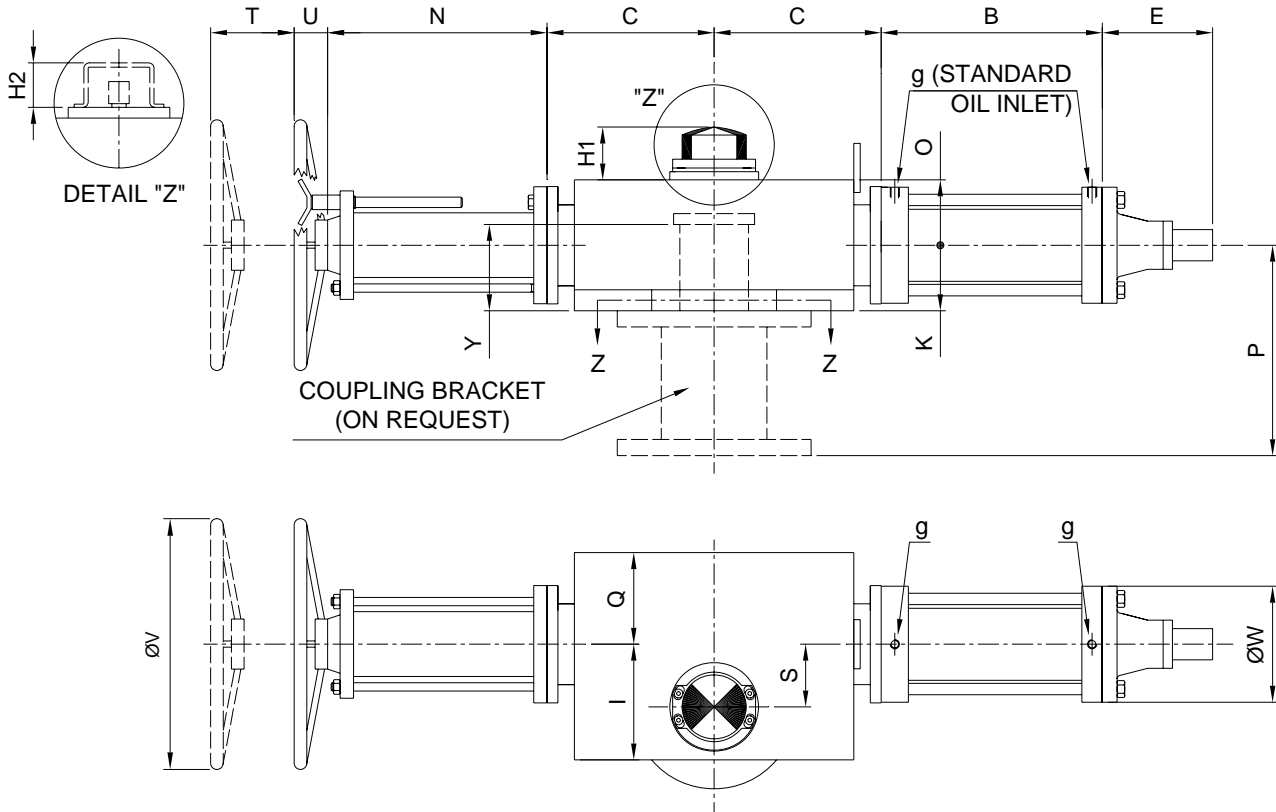
| POS. | DESCRIPTION | MATERIAL | POS. | DESCRIPTION | MATERIAL |
|-------|-----------------------------|---------------------|-------|--------------|---------------------|
| 101 | HOUSING | S 275 JR EN 10025 | ● 805 | O-RING | N.B.R. |
| 102 | LINK | S 275 JR EN 10025 | ● 806 | O-RING | N.B.R. |
| 105 | COVER | S 275 JR EN 10025 | ● 807 | COVER GASKET | N.B.R. |
| 106 | CHROM. SHAFT | 42CrMo4 EN 10083/1 | ● 808 | O-RING | N.B.R. |
| 107 | PIN | 42CrMo4 EN 10083/1 | ● 812 | O-RING | POLYURETHANE |
| 108 | LINK JOINT | S 275 JR EN 10025 | ● 813 | PISTON DRIVE | PTFE+GRAPHITE |
| 109 | COVER | S 275 JR EN 10025 | ● 814 | LIP GASKET | POLYURETHANE |
| 110 | SLIDING RING | BzAl EN 1982 | ● 820 | GASKET | N.B.R. |
| 111 | BUSHING | STEEL/BRONZE/TEFLON | ● 821 | WIPER RING | N.B.R. |
| 112 | CHROM. SHAFT | 42CrMo4 EN 10083/1 | ● 825 | O-RING | N.B.R. |
| 116 | CHROM. SHAFT | 42CrMo4 EN 10083/1 | ● 826 | O-RING | N.B.R. |
| 130 | LINK CAP | S 275 JR EN 10025 | ● 827 | O-RING | N.B.R. |
| 131 | INTERMEDIATE SHAFT | 42CrMo4 EN 10083/1 | ● 828 | GASKET | N.B.R. |
| 132 | LINK | 42CrMo4 EN 10083/1 | 901 | BUSHING | STEEL/BRONZE/TEFLON |
| 133 | TUBE | E 235 SR EN 10305/1 | 903 | BUSHING | STEEL/BRONZE/TEFLON |
| 134 | STOP SCREW | 8.8 EN 898/1 | 904 | BUSHING | STEEL/BRONZE/TEFLON |
| 135 | BLOCK NUT | 6 S EN 20898/2 | 905 | NUT | 6S EN 20898/2 |
| 136 | COVER | S 275 JR EN 10025 | 906 | SCREW | 8.8 EN 898/1 |
| 601 | HEAD | S 275 JR EN 10025 | 909 | SCREW | 8.8 EN 898/1 |
| 602 | HEAD | S 275 JR EN 10025 | 910 | SEEGER | ALLOY STEEL |
| 603 | CAP | S 275 JR EN 10025 | 913 | SEEGER | ALLOY STEEL |
| 604 | CYLINDER (int. chr. plated) | E 355 EN 10297/1 | 922 | BLOCK NUT | 6 S EN 20898/2 |
| 605 | PISTON | S 275 JR EN 10025 | 924 | PIN | 8.8 EN 898/1 |
| 606 | FLANGE | S 275 JR EN 10025 | 925 | NUT | 6S EN 20898/2 |
| 607 | HEAD | S 275 JR EN 10025 | 931 | SCREW | 8.8 EN 898/1 |
| 608 | STOP SCREW | C 40 EN 10083/2 | 941 | NAMUR PIN | AISI 316 |
| 609 | STAY BOLT | C 40 EN 10083/2 | 951 | DOWEL | 8.8 EN 898/1 |
| ● 801 | O-RING | N.B.R. | 953 | SCREW | 8.8 EN 898/1 |

● STANDARD SPARE PARTS

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

TYPE RSOV - RCOV



ACTUATOR DIMENSIONS (mm)

| | B | C | E | H1 | H2 | I | K | N | O | Q | S | T | U | V | Y | g |
|---------------|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RSOV 2500/... | 490 | 335 | 190 | 55 | 45 | 240 | 170 | 450 | 130 | 180 | 130 | 300 | 120 | 800 | 150 | ½ G |
| RCOV 2500/... | | | | | | | | | | | | | | | | |

FLANGE DIMENSIONS (mm)

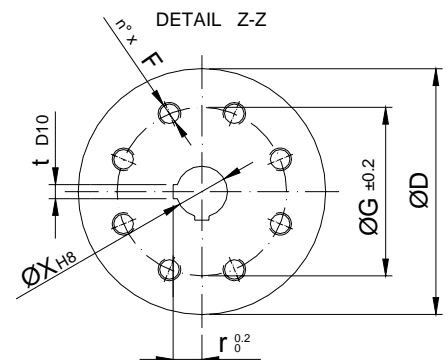
| | D | n° x F | G | X | r | t | ISO |
|---------------|-----|----------|-----|----|------|----|------|
| RSOV 2500/... | 415 | 8 x M 20 | 298 | 90 | 50,4 | 25 | F 30 |
| RCOV 2500/... | | | | | | | |

ON REQUEST

| MIN. | MAX. | Xmin | Xmax |
|------|------|------|------|
| F 25 | F 35 | 65 | 100 |

CYLINDER DIAMETER (mm)

| TYPE OF CYLINDER | 80 | 90 | 100 | 110 | 125 | 140 | 160 | 180 | 200 | 220 |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| DIMENSION "W" | 140 | 170 | 170 | 190 | 210 | 230 | 230 | 300 | 320 | 340 |



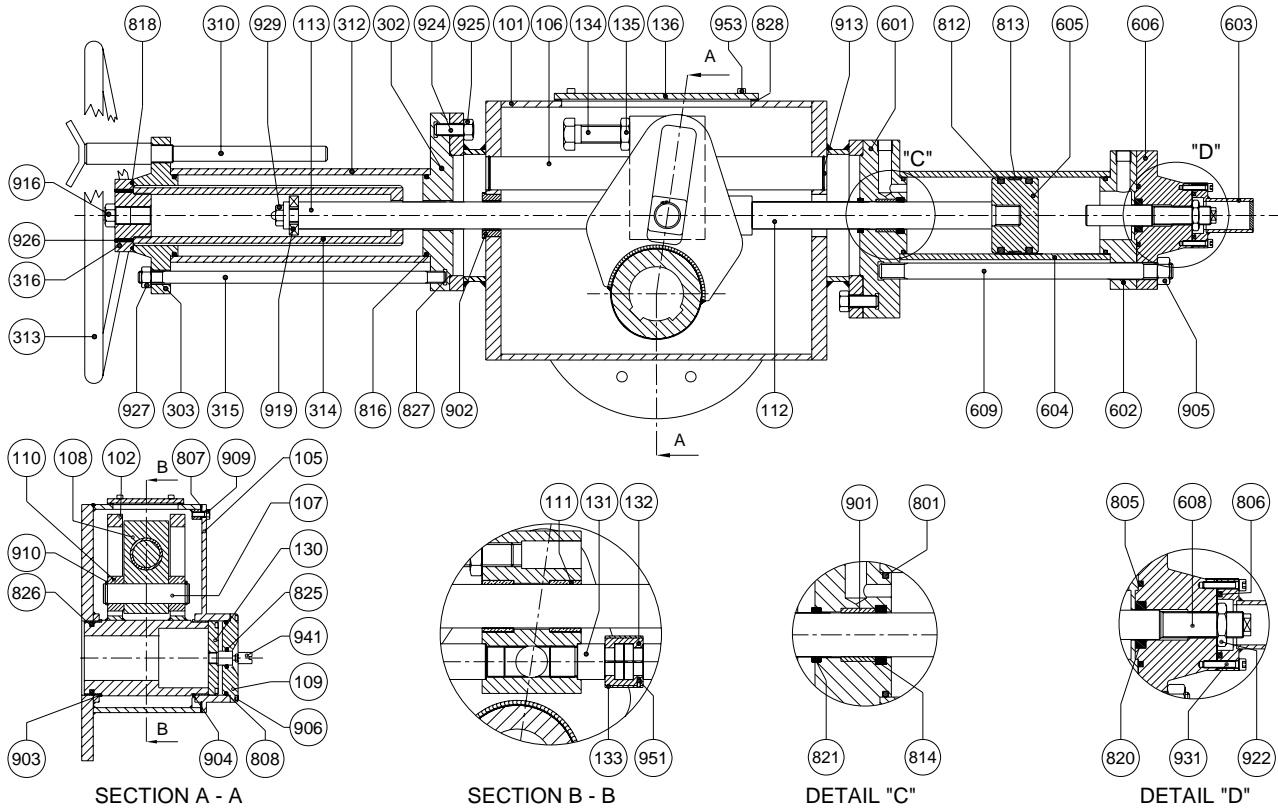
- "H1" - STANDARD INDEX
- "H2" - MOUNTING KIT ACCORDING TO VDI-VDE 3845 (ON REQUEST)
- "P" - BRACKET ACCORDING TO CUSTOMER REQUIREMENT (ON REQUEST)

ON REQUEST ISO MALE SPIGOT

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

TYPE RSOV - RCOV



POS. DESCRIPTION

MATERIAL

| | | | |
|-------|-----------------------------|---------------------|------------|
| 101 | HOUSING | S 275 JR | EN 10025 |
| 102 | LINK | S 275 JR | EN 10025 |
| 105 | COVER | S 275 JR | EN 10025 |
| 106 | CHROM. SHAFT | 42CrMo4 | EN 10083/1 |
| 107 | PIN | 42CrMo4 | EN 10083/1 |
| 108 | LINK JOINT | S 275 JR | EN 10025 |
| 109 | COVER | S 275 JR | EN 10025 |
| 110 | SLIDING RING | BzAl | EN 1982 |
| 111 | BUSHING | STEEL/BRONZE/TEFLON | |
| 112 | CHROM. SHAFT | 42 CrMo4 | EN 10083/1 |
| 113 | CHROM. SHAFT | 42 CrMo4 | EN 10083/1 |
| 130 | LINK CAP | S 275 JR | EN 10025 |
| 131 | INTERMEDIATE SHAFT | 42CrMo4 | EN 10083/1 |
| 132 | LINK | 42CrMo4 | EN 10083/1 |
| 133 | TUBE | E 235 SR | EN 10305/1 |
| 134 | STOP SCREW | 8.8 | EN 898/1 |
| 135 | BLOCK NUT | 6 S | EN 20898/2 |
| 136 | COVER | S 275 JR | EN 10025 |
| 601 | HEAD | S 275 JR | EN 10025 |
| 602 | HEAD | S 275 JR | EN 10025 |
| 603 | CAP | S 275 JR | EN 10025 |
| 604 | CYLINDER (int. chr. plated) | E 355 | EN 10297/1 |
| 605 | PISTON | S 275 JR | EN 10025 |
| 606 | FLANGE | S 275 JR | EN 10025 |
| 608 | STOP SCREW | C 40 | EN 10083/2 |
| 609 | STAY BOLT | C 40 | EN 10083/2 |
| 302 | INTERNAL FLANGE | S 275 JR | EN 10025 |
| 303 | SCREW THREAD FLANGE | GS 400/12 | EN 1563 |
| 310 | PIN | X20Cr13 | EN 10088 |
| 312 | TUBE | E 235 SR | EN 10305/1 |
| 313 | HANDWHEEL | E 235 SR | EN 10305/1 |
| 314 | DRIVE NUT | BSZN | EN 1982 |
| 315 | STAY BOLT | C 40 | EN 10083/2 |
| 316 | RING NUT | S 275 JR | EN 10083/2 |
| ● 801 | O-RING | N.B.R. | |
| ● 805 | O-RING | N.B.R. | |

POS. DESCRIPTION

MATERIAL

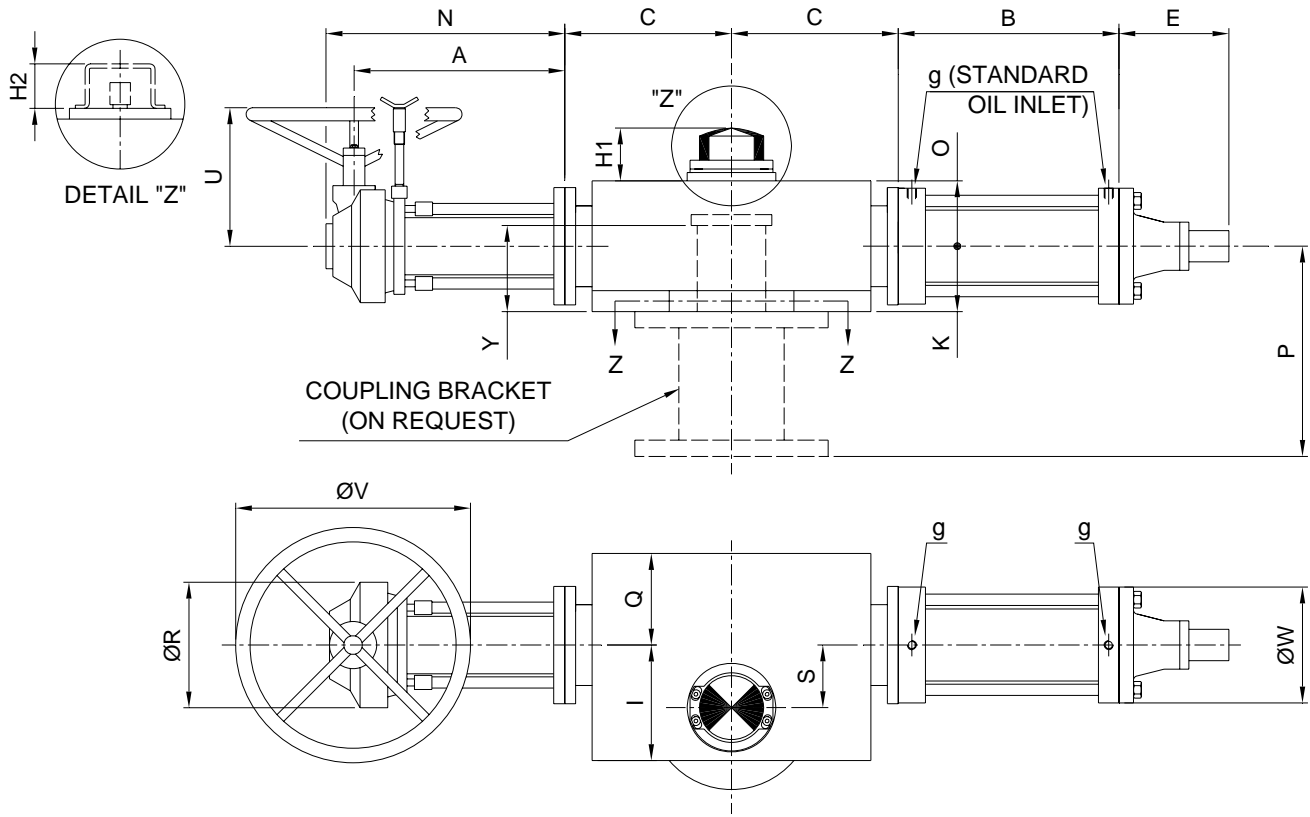
| | | | |
|-------|----------------|---------------------|------------|
| ● 806 | O-RING | N.B.R. | |
| ● 807 | COVER GASKET | N.B.R. | |
| ● 808 | O-RING | N.B.R. | |
| ● 812 | O-RING | N.B.R. | |
| ● 813 | PISTON DRIVE | PTFE+GRAPHITE | |
| ● 814 | LIP GASKET | POLYURETHANE | |
| ● 816 | O-RING | N.B.R. | |
| ● 818 | O-RING | N.B.R. | |
| ● 820 | GASKET | N.B.R. | |
| ● 821 | WIPER RING | N.B.R. | |
| ● 825 | O-RING | N.B.R. | |
| ● 826 | O-RING | N.B.R. | |
| ● 827 | O-RING | N.B.R. | |
| ● 828 | GASKET | N.B.R. | |
| 901 | BUSHING | STEEL/BRONZE/TEFLON | |
| 902 | BUSHING | STEEL/BRONZE/TEFLON | |
| 903 | BUSHING | STEEL/BRONZE/TEFLON | |
| 904 | BUSHING | STEEL/BRONZE/TEFLON | |
| 905 | NUT | 6 S | EN 20898/2 |
| 906 | SCREW | 8.8 | EN 898/1 |
| 909 | SCREW | 8.8 | EN 898/1 |
| 910 | SEEGER | ALLOY STEEL | |
| 913 | SEEGER | ALLOY STEEL | |
| 916 | SCREW | NYLON | |
| 919 | ROLLER BEARING | ALLOY STEEL | |
| 922 | BLOCK NUT | 6 S | EN 20898/2 |
| 924 | PIN | 8.8 | EN 898/1 |
| 925 | NUT | 6 S | EN 20898/2 |
| 927 | NUT | 6 S | EN 20898/2 |
| 926 | DOWEL | 6 S | EN 20898/2 |
| 929 | SCREW | 8.8 | EN 898/1 |
| 931 | SCREW | 8.8 | EN 898/1 |
| 941 | NAMUR PIN | AISI 316 | |
| 951 | DOWEL | 8.8 | EN 898/1 |
| 953 | SCREW | 8.8 | EN 898/1 |

● STANDARD SPARE PARTS

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

TYPE RSOR - RCOR



ACTUATOR DIMENSIONS (mm)

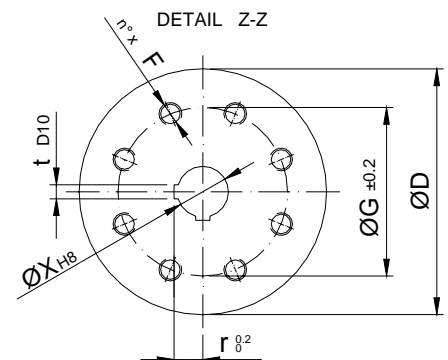
| | A | B | C | E | H1 | H2 | I | K | N | O | Q | R | S | U | V | Y | g |
|---------------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RSOR 2500/... | 530 | 490 | 335 | 190 | 55 | 45 | 240 | 170 | 620 | 130 | 180 | 270 | 130 | 330 | 800 | 150 | ½ G |
| RCOR 2500/... | | | | | | | | | | | | | | | | | |
| RSOR 4500/... | 620 | 610 | 465 | 220 | 55 | 45 | 295 | 155 | 710 | 155 | 255 | 270 | 170 | 330 | 800 | 170 | ½ G |
| RCOR 4500/... | | | | | | | | | | | | | | | | | |

FLANGE DIMENSIONS (mm)

| | D | n° x F | G | X | r | t | ISO | ON REQUEST | | | | | |
|---------------|-----|----------|-----|-----|------|----|------|------------|------|------|------|--|--|
| | | | | | | | | MIN. | MAX. | Xmin | Xmax | | |
| RSOR 2500/... | 415 | 8 x M 20 | 298 | 90 | 50,4 | 25 | F 30 | F 25 | F 35 | 65 | 100 | | |
| RCOR 2500/... | | | | | | | | | | | | | |
| RSOR 4500/... | 475 | 8 x M 30 | 356 | 120 | 67,4 | 32 | F 35 | F 30 | F 40 | 90 | 130 | | |
| RCOR 4500/... | | | | | | | | | | | | | |

CYLINDER DIAMETER (mm)

| TYPE OF CYLINDER | 80 | 90 | 100 | 110 | 125 | 140 | 160 | 180 | 200 | 220 |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| DIMENSION "W" | 140 | 170 | 170 | 190 | 210 | 230 | 230 | 300 | 320 | 340 |



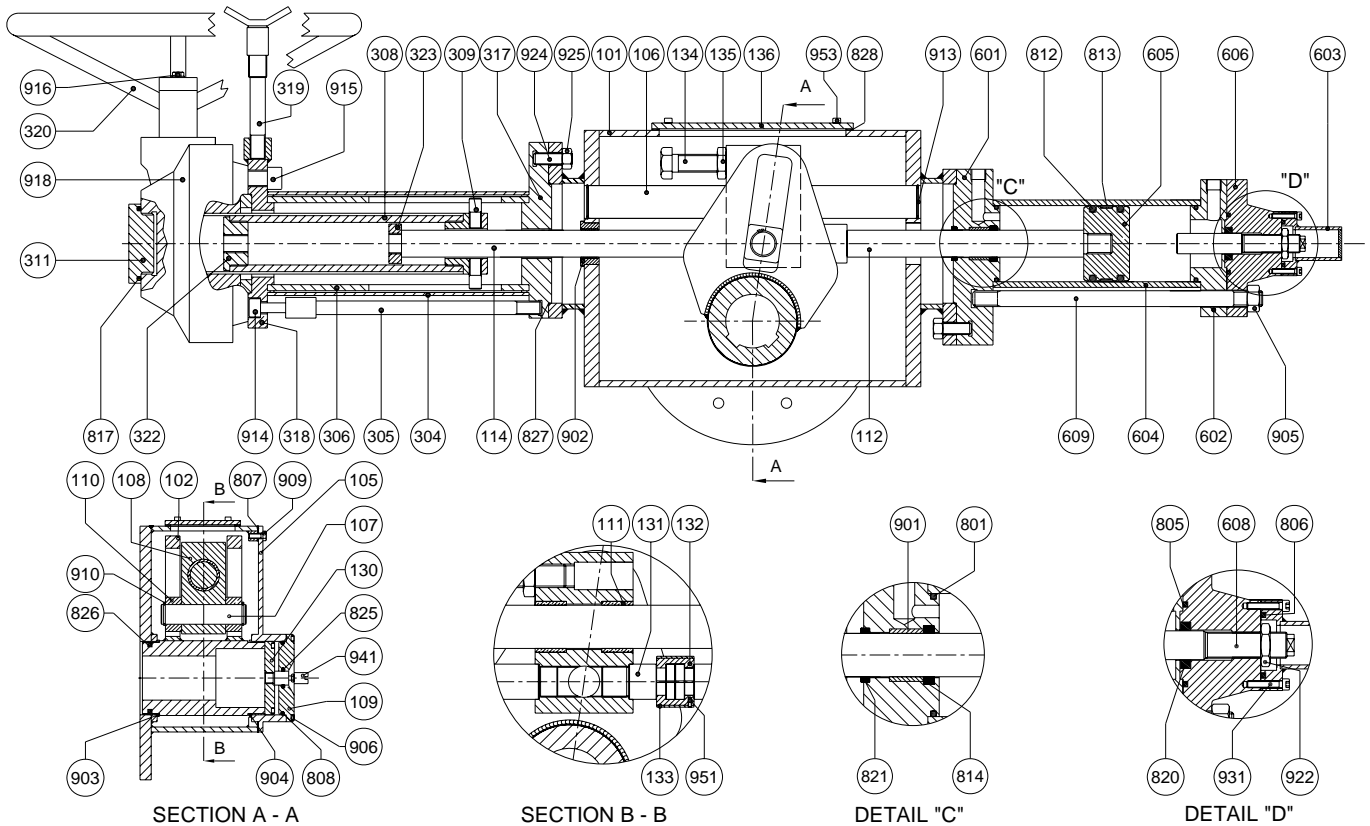
"H1" - STANDARD INDEX
 "H2" - MOUNTING KIT ACCORDING TO VDI-VDE 3845 (ON REQUEST)
 "P" - BRACKET ACCORDING TO CUSTOMER REQUIREMENT (ON REQUEST)

ON REQUEST ISO MALE SPIGOT

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

DOUBLE ACTING

TYPE RSOR - RCOR



POS. DESCRIPTION

MATERIAL

| | | | |
|-----|-----------------------------|---------------------|------------|
| 101 | HOUSING | S 275 JR | EN 10025 |
| 102 | LINK | S 275 JR | EN 10025 |
| 105 | COVER | S 275 JR | EN 10025 |
| 106 | CHROM. SHAFT | 42CrMo4 | EN 10083/1 |
| 107 | PIN | 42CrMo4 | EN 10083/1 |
| 108 | LINK JOINT | S 275 JR | EN 10025 |
| 109 | COVER | S 275 JR | EN 10025 |
| 110 | SLIDING RING | BzAl | EN 1982 |
| 111 | BUSHING | STEEL/BRONZE/TEFLON | |
| 112 | CHROM. SHAFT | 42 CrMo4 | EN 10083/1 |
| 114 | CHROM. SHAFT | 42 CrMo4 | EN 10083/1 |
| 130 | LINK CAP | S 275 JR | EN 10025 |
| 131 | INTERMEDIATE SHAFT | 42CrMo4 | EN 10083/1 |
| 132 | LINK | 42CrMo4 | EN 10083/1 |
| 133 | TUBE | E 235 SR | EN 10305/1 |
| 134 | STOP SCREW | 8.8 | EN 898/1 |
| 135 | BLOCK NUT | 6 S | EN 20898/2 |
| 136 | COVER | S 275 JR | EN 10025 |
| 601 | HEAD | S 275 JR | EN 10025 |
| 602 | HEAD | S 275 JR | EN 10025 |
| 603 | CAP | S 275 JR | EN 10025 |
| 604 | CYLINDER (int. chr. plated) | E 355 | EN 10297/1 |
| 605 | PISTON | S 275 JR | EN 10025 |
| 606 | FLANGE | S 275 JR | EN 10025 |
| 608 | STOP SCREW | C 40 | EN 10083/2 |
| 609 | STAY BOLT | C 40 | EN 10083/2 |
| 304 | TUBE | E 235 SR | EN 10305/1 |
| 305 | SAFETY BOLT | E 235 SR | EN 10305/1 |
| 306 | TUBE | E 235 SR | EN 10305/1 |
| 308 | DRIVE NUT | CAST IRON | EN 1563 |
| 309 | PIN | C 40 | EN 10083/2 |
| 311 | CAP | ALUMINIUM | |
| 317 | INTERNAL FLANGE | S 275 JR | EN 10025 |
| 318 | EXTERNAL FLANGE | S 275 JR | EN 10025 |
| 319 | PIN | X20Cr13 | EN 10088 |
| 320 | HANDWHEEL | E 235 SR | EN 10305/1 |
| 322 | HUB | C 40 | EN 10083/2 |

POS. DESCRIPTION

MATERIAL

| | | | |
|-------|--------------|---------------------|------------|
| 323 | RING NUT | C 40 | EN 10083/2 |
| ● 801 | O-RING | N.B.R. | |
| ● 805 | O-RING | N.B.R. | |
| ● 806 | O-RING | N.B.R. | |
| ● 807 | COVER GASKET | N.B.R. | |
| ● 808 | O-RING | N.B.R. | |
| ● 812 | O-RING | N.B.R. | |
| ● 813 | PISTON DRIVE | PTFE+GRAPHITE | |
| ● 814 | LIP GASKET | POLYURETHANE | |
| ● 817 | O-RING | N.B.R. | |
| ● 820 | GASKET | N.B.R. | |
| ● 821 | WIPER RING | N.B.R. | |
| ● 825 | O-RING | N.B.R. | |
| ● 826 | O-RING | N.B.R. | |
| ● 827 | O-RING | N.B.R. | |
| ● 828 | O-RING | N.B.R. | |
| 901 | BUSHING | STEEL/BRONZE/TEFLON | |
| 902 | BUSHING | STEEL/BRONZE/TEFLON | |
| 903 | BUSHING | STEEL/BRONZE/TEFLON | |
| 904 | BUSHING | STEEL/BRONZE/TEFLON | |
| 905 | NUT | 6 S | EN 20898/2 |
| 906 | SCREW | 8.8 | EN 898/1 |
| 909 | SCREW | 8.8 | EN 898/1 |
| 910 | SEEGER | ALLOY STEEL | |
| 913 | SEEGER | ALLOY STEEL | |
| 914 | SCREW | 8.8 | EN 898/1 |
| 915 | SCREW | 8.8 | EN 898/1 |
| 916 | SCREW | 8.8 | EN 898/1 |
| 918 | REDUCTOR | CAST IRON | EN 1563 |
| 922 | BLOCK NUT | 6 S | EN 20898/2 |
| 924 | PIN | 8.8 | EN 898/1 |
| 925 | NUT | 6 S | EN 20898/2 |
| 931 | SCREW | 8.8 | EN 898/1 |
| 941 | NAMUR PIN | AISI 316 | |
| 951 | DOWEL | 8.8 | EN 898/1 |
| 953 | SCREW | 8.8 | EN 898/1 |
| 953 | SCREW | 8.8 | EN 898/1 |

● STANDARD SPARE PARTS

HYDRAULIC QUARTER TURN ACTUATOR SCOTCH-YOKE EXECUTION

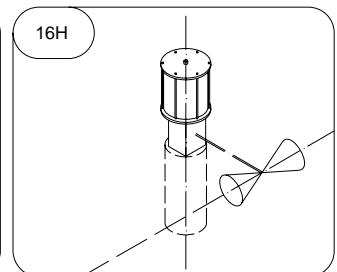
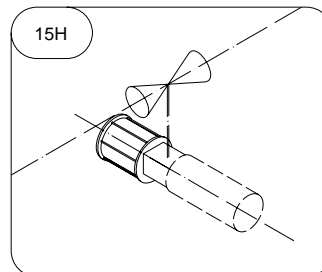
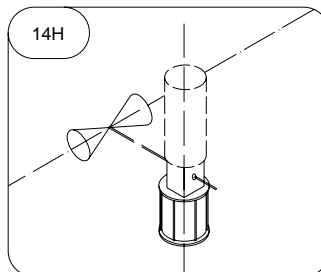
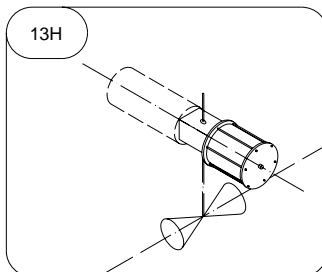
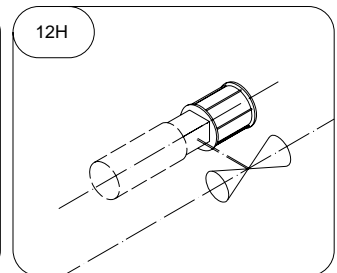
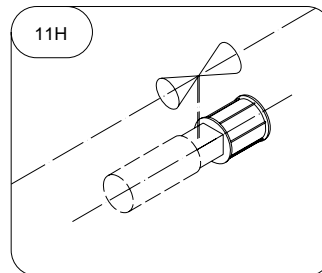
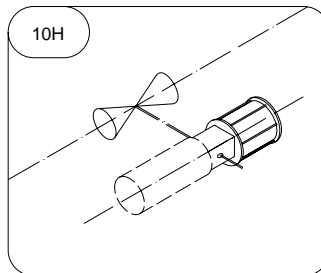
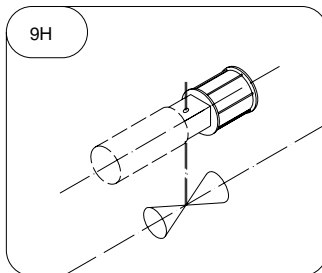
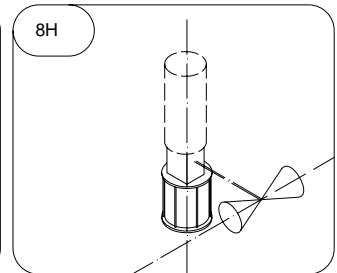
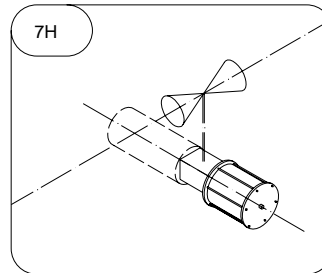
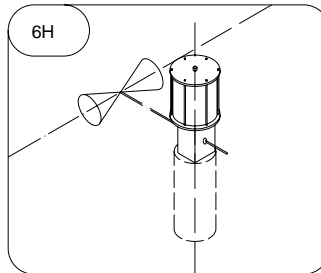
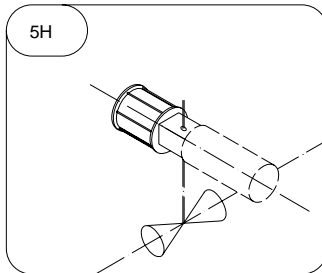
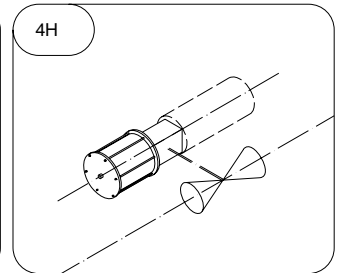
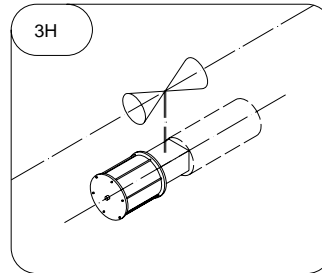
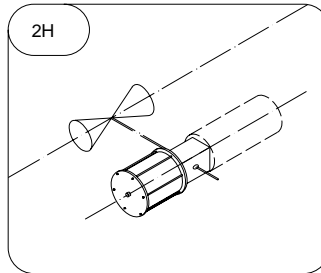
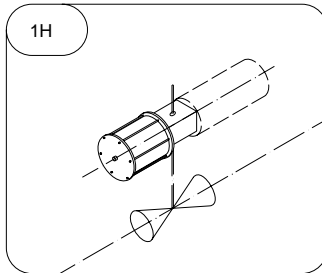
VALVE - ACTUATOR COUPLING

VALVE BOTTOM
ACTUATOR ABOVE

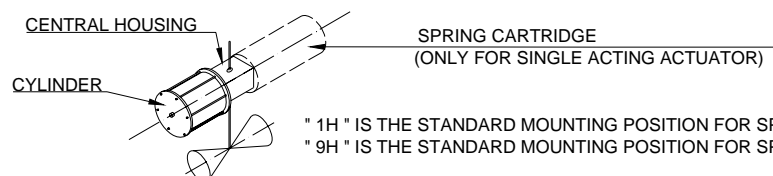
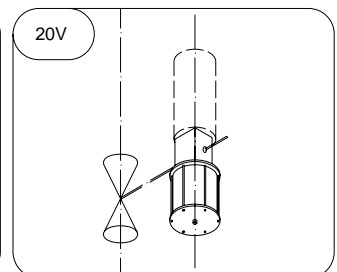
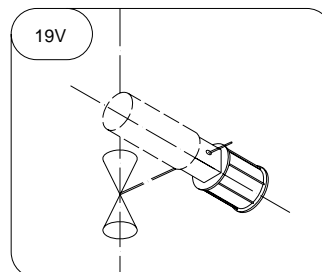
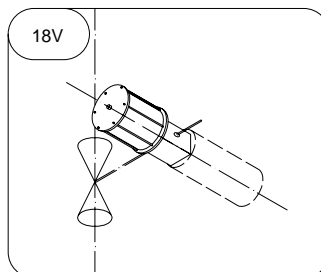
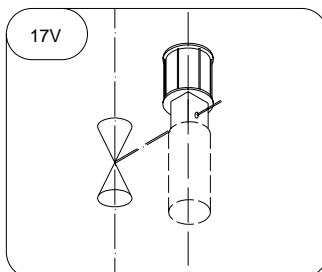
VALVE LEFT SIDE

VALVE ABOVE
ACTUATOR BOTTOM

VALVE RIGHT SIDE



VALVE VERTICAL PIPE



" 1H " IS THE STANDARD MOUNTING POSITION FOR SPRING TO OPEN.
" 9H " IS THE STANDARD MOUNTING POSITION FOR SPRING TO CLOSE.