

CERTIFICATE NUMBER EFFECTIVE DATE EXPIRY DATE ABS TECHNICAL OFFICE 24-00T2526806-PDA 15-May-2024 14-May-2029 Genoa Engineering Department

CERTIFICATE OF

Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

ROTORK FLUID SYSTEMS SRL

located at

VIA PADRE JACQUES HAMEL 138B, , PORCARI, Italy, 55016

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Actuator, Pneumatic

Model: CP/S and CP/D series

Endorsements:

Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 14/May/2029 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Cristina Generale, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

VIA PADRE JACQUES HAMEL 138B

PORCARI LUCCA

Italy 55016

Telephone: +39-0583-2221 Fax: +39-0585-091362 Email: fluid@rotork.com Web: www.rotork.com

Tier: 2 - PDA Issued

Product: Actuator, Pneumatic Model: CP/S and CP/D series

Endorsements:

Intended Service:

Quarter-turn valve actuators.

Description:

Spring Return (S-series) or Double Acting (D-series) pneumatic actuators, rod-and-yoke type, pressure parts available in carbon steel or ductile cast iron.

Seal material to be selected (NBR, Viton, Fluorosilicon) as a function of minimum intended working temperature and/or operative fluid.

Rating:

Actuators belong to four groups according to stroke (35-45-55-65), with cylinder internal diameters ranging from 80 to 385 mm as follows:

CP/S(D)35-80/100/130/140

CP/S(D)45-120/140/180/200

CP/S(D)55-160/200/250/280

CP/S(D)65-250/280/335/385

Maximum Allowable Working Pressure: 12 bar for all sizes, except CP/S-385 and CP/D-385 which have MAWP = 10.5 bar

Design temperature range: -46°C to +100°C

Service Restriction:

Unit certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Each individual unit to be pressure tested by the Manufacturer according to selected material: 1.5 times the MAWP for carbon steel pressure parts, 2 times the MAWP for cast iron pressure parts. Ref. to par. 4-6-7/3.5.5 (b) ii) of the Rules.

Comments:

NA

Notes/Drawing/Documentation:

Drawing No. 3830800121-A-0, CYLINDER TUBE-D080-CP035, Revision: A

Drawing No. 3820351060-D-0, STOP BOLT-CP035, Revision: D

Drawing No. 3831200060-B-0, END FLANGE-MACHINING-D120-CP045, Revision: B

Drawing No. 3820652007-1-0, CARTER B.065 MAT.A352 LCB, Revision: 1

Drawing No. 3831400130, ADAPTOR PLATE-MACHINING-D140-CP035, Revision: B

Drawing No. 3831200081-A-0, CYLINDER TUBE-D120-CP045, Revision: A Drawing No. 3831400091-A-0, CYLINDER TUBE-D140-CP045, Revision: A

Drawing No. 3820551020-C-0, SCOTCH YOKE-MACHINING-CP055, Revision: C

Drawing No. GD01652-10, Cp2 carter stop bolt, Revision: 0

Drawing No. 3070853020-B, FLANGE PORT GRAIN CONTROL, Revision: B

Drawing No. GD01652-11, Cp2 cylinder stop bolt, Revision: 0

Drawing No. 3831400170, END FLANGE D.140 FOR CP45/2, Revision: A

Drawing No. 3820551050-D-0, YOKE PIN CP2 055 ARM C45, Revision: D Drawing No. 3831200090-A-0, PISTONE-D120-CP045, Revision: A

Drawing No. 3820451010-B, CENTER BODY-MACHINING-CP045, Revision: B

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Drawing No. 3831600091, CYLINDER TUBE-D160-CP055, Revision: A,
Drawing No. 3820351020_C-0, SCOTCH YOKE-MACHINING-CP035, Revision: C
Drawing No. 3820551007-C-0, CARTER-CP055, Revision: C
Drawing No. 3831800110, PISTON-D180-CP045, Revision: A
Drawing No. 3820552017-1-0, CARTER B.055-200 MAT.A352 LCB, Revision: 0
Drawing No. 3831800140, END FLANGE D.180, Revision: 1
Drawing No. 3820551010-D-0, CENTER BODY-MACHINING-CP055, Revision: D
Drawing No. 3820352017-B-0, CARTER B.035 O100 MAT.A352 LCB, Revision: B
Drawing No. 3123850290-C, FLANGIA DI CODA, Revision: 0
Drawing No. GD01652-03, perno per glifo cp2, Revision: 0
Drawing No. 3820552007-1-0, CARTER B.055 -160/250/280 MAT.A352, Revision: 01
Drawing No. 3820451070-C, STOP BOLT-CP045, Revision: C
Drawing No. 3832000121, CYLINDER TUBE-D200-CP055, Revision: A
Drawing No. 3820651007-A-0, CENTER BODY-MACHINING-CP065, Revision: A
Drawing No. 3820651000-E, CENTER BODY-MACHINING-CP065, Revision: E
Drawing No. 3820351007_A-0, CARTER, Revision: A
Drawing No. 3831000090-A-0, END FLANGE-MACHINING-D100-CP035, Revision: A
Drawing No. 3831000071-A-0, CYLINDER TUBE-D100-CP035, Revision: A
Drawing No. 3831300070-A-0, PISTON-D130-CP035, Revision: A
Drawing No. 3831800101, CYLINDER TUBE-D180-CP045, Revision: A
Drawing No. 3820351031-C-0, ALBERO D'USCITA-CP035, Revision: C
Drawing No. 3831400160, END FLANGE D.140 FOR CP 35/2, Revision: C
Drawing No. 3831400110, END FLANGE-MACHINING-D140-CP035, Revision: B
Drawing No. GD01652-04, Axial bar cp2, Revision: 0
Drawing No. 3831400070, END FLANGE-MACHINING-D140-CP045, Revision: B
Drawing No. GD01652-02, Output shaft cp2, Revision: 0
Drawing No. 3831400100, PISTON-D140-CP045, Revision: A
Drawing No. 3820351000_C-0, CENTER BODY-MACHINING-CP035, Revision: C
Drawing No. 3831400290, ADATTATORE PER CP3 140 IN ACCIAIO, Revision: 0
Drawing No. GD01652-01, Cp2 yoke, Revision: 0
Drawing No. 3832000110, PISTON-D200-CP055, Revision: C
Drawing No. 3831600110-1, FLANGIA DI CODA D.160 IN ACCIAIO PER CP55-2, Revision: C
Drawing No. 3830800140-A-0, END FLANGE-MACHINING-D080-CP035, Revision: A
Drawing No. QS024, STANDARD FACTORY ACCEPTANCE TESTING PROCEDURE FOR PNEUMATIC &,
HYDRĂULIC AND ELECTROHYDRAULIC ACTUAT, Revision: 23
Drawing No. GD01652-09, cp2 piston, Revision: 0
Drawing No. 3820352050-0, SCOTCH YOKE- CP035, Revision: 0
Drawing No. 3820651021-C-0, OUTPUT SHAFT-CP065, Revision: C
Drawing No. 3820452017-1-0, CARTER B.045 -140 MAT.A352 LCB, Revision: 1
Drawing No. 3831400120, PISTON-D140-CP035, Revision: B
Drawing No. GD01687, Spring return model, Revision: 0
Drawing No. GD01652-06, End flange cp2, Revision: 0
Drawing No. 3820451050-D-0, PERNO x GLIFO CP2 B.045 C40, Revision: D
Drawing No. 3820351050-C-0, PERNO x GLIFO CP2 B.035 C40, Revision: C
Drawing No. 3831000110-1-0, END FLANGE D.100, Revision: 01
Drawing No. 3831000080-B-0, PISTON-D100-CP035, Revision: B
Drawing No. 3830800160-B, END FLANGE D.080, Revision: B
Drawing No. 3820351017_A-0, Carter, Revision: A
Drawing No. 3820451017-A-0, CARTER-CP045, Revision: A
Drawing No. 3820451017-A-0, CARTER-CP045, Revision: A
Drawing No. 3820351070-C-0, STOP BOLT-CP035, Revision: C
Drawing No. 3820552130-0, SCOTCH YOKE - CP055, Revision: 0
Drawing No. 3820651010-C-0, SCOTCH YOKE-MACHINING-CP065, Revision: C
Drawing No. 3820452017_1-0, CARTER B.045-140 MAT.A352 LCB, Revision: 01
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Drawing No. 3831300080-A-0, END FLANGE-MACHINING-D130-CP035, Revision: A

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Drawing No. 3820351010_C-0, CENTER BODY-MACHINING-CP035, Revision: C,
Drawing No. 3831800090, ADAPTOR PLATE-MACHINING-D180-CP045, Revision: B
Drawing No. 3820451060-E-0, STOP BOLT-CP045, Revision: E
Drawing No. 3820651070-C-0, STOP BOLT-CP055/CP065, Revision: C
Drawing No. 3820551031-B-0, OUTPUT SHAFT-CP055, Revision: B
Drawing No. 3831600060, END FLANGE-MACHINING-D160-CP055, Revision: B
Drawing No. 3831800200, ADATTATORE PER CP45 PER CILINDRO 180 IN ACCIAO, Revision: B
Drawing No. 3820451020-B-0, SCOTCH YOKE-MACHINING-CP045, Revision: B
Drawing No. 3820551060-1-0, STOP BOLT CP055-2/CP065-2, Revision: 01
Drawing No. 3820551000-D, CENTER BODY-MACHINING-CP055, Revision: 0
Drawing No. 3831800080, END FLANGE-MACHINING-D180-CP045, Revision: B
Drawing No. 3820452007_0-1, CARTER B.045 120/180/200 MAT.A352, Revision: 01 Drawing No. GD01652-07, cp2 spring container, Revision: 0 Drawing No. GD01652-05, cp2 cylinder tube, Revision: 0
Drawing No. 3831400141, CYLINDER TUBE-D140-CP035, Revision: A
Drawing No. 3831300120-B, ADATTATORE CP35 Å130 IN ACCIAIO, Revision: B
Drawing No. 3820352007 B-0, CARTER B.035 Å80/130/140 MAT.A352 LCB, Revision: B
Drawing No. 3832000090, END FLANGE-MACHINING-D200-CP055, Revision: A
Drawing No. 3820452070_0, SCOTCH YOKE- CP045, Revision: 0
Drawing No. 3831300110-A, END FLANGE D.130 FOR CP35/2, Revision: A
Drawing No. 3820451031-C-0, ALBERO D'USCITA-CP045, Revision: C
Drawing No. GD01652-08, Adaptor plate cp2, Revision: 0
Drawing No. 3820551017-C-0, ARTER-CP055, Revision: C
Drawing No. 3831600100, PISTON-D160-CP055, Revision: C
Drawing No. 3820651040-D-0, YOKE PIN CP2 065 ARM 42CrMo4, Revision: D
Drawing No. 3831300090-B-0, ADAPTOR PLATE-MACHINING-D130-CP035, Revision: B
Drawing No. 3831300061-A-0, CYLINDER TUBE-D130-CP035, Revision: A
Drawing No. 3820451000-B-0, CENTER BODY-MACHINING-CP045, Revision: B
Drawing No. GD02962, Centre body in cast iron mat. vs. carbon steel mat., Revision: 0
Drawing No. 3820652130-0, SCOTCH YOKE- CP065, Revision: 0
Drawing No. 3831200100-0, FLANGIA DI CODA D.120, Revision: A
Drawing No. 3832000161 REV A Cylinder
Drawing No.3830800130 REV B Piston
Drawing No.3831400290 REV.0 Adaptor
Drawing No.3832000170 REV A Piston
Drawing No.3832000180 REV B Adaptor
Drawing No.3832000190 REV A End flange
Drawing No.3832000230 REV.0 End flange
Drawing No.3832000240 REV. 1-0 End flange
Drawing No.3832000360 REV.0 Adaptor
Drawing No.3832500130 REV A End flange
Drawing No.3832500140 REV D Adaptor
Drawing No.3832500161 REV A Cylinder
Drawing No.3832500170 REV D Piston
Drawing No.3832500201 REV B Cylinder
Drawing No.3832500230 REV.C End flange
Drawing No.3832500333 REV.0 Adaptor
Drawing No.3832800080 REV A End flange
Drawing No.3832800090 REV D Adaptor
Drawing No.3832800110 REV F Piston
Drawing No.3832800121 REV A Cylinder
Drawing No.3832800131 REV A Cylinder
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Drawing No.3832800150 REV.A End flange Drawing No.3832800270 REV.0 Adaptor

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Drawing No.3833350101 REV A Cylinder Drawing No.3833350110 REV C End flange Drawing No.3833350120 REV B Piston Drawing No.3833350130 REV E Adaptor Drawing No.3833350150 REV.0 End flange Drawing No.3833350200 REV.C Adaptor Drawing No.3833850001 REV A Cylinder Drawing No.3833850010 REV C End flange Drawing No.3833850020 REV D Piston Drawing No.3833850030 REV D Adaptor Drawing No.3833850075 REV.A Adaptor

Terms of Validity:

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STANDARDS

ABS Rules:

- 2024 Rules for Conditions of Classification, 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:
- 2024 Marine Vessel Rules: 4-4-1,4-4-A1
- 2024 Steel Vessels for Service on Rivers and Intracoastal Waterways Rules: 4-1-1/11
- 2024 Rules for Conditions of Classification, 1C-1-4/11.9, 1C-1-A2 and A3, which covers the following:
- 2024 High Speed Craft Rules: 4-1-1/7.5, 4-1-1/31
- 2024 Rules for Conditions of Classification, 1B-1-4/9.7, 1B-1-A2, 1B-1-A3, which covers the following:
- 2024 Mobile Offshore Units Rules: 6-1-5
- 2024 Facilities on Offshore Installations Rules: 1-6/9

National:

NA

International:

EN 13445-3, Ed. 2021 ASME VIII Div.1, Ed. 2023

Government:

NA

EUMED:

NA

OTHERS:

NA