

Report 210300673/03

Test report

ASCO 159 actuator with 158 valves, H2 testing

ASCO L.P. / Emerson
160 Park Ave
NJ 07932 Florham Park
USA



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The test results in this report are exclusively related to the samples offered and tested.

Tests marked in this report with the IRN number are part of the accreditation scope (RvA L248) unless stated differently.

Measurement uncertainty of testing in the context of ISO/IEC 17025.

Test reports can, in some cases, contain besides the numeric measured values also the qualification "pass" or "fail". In this assessment, compliance with the specification limit from the applicable product standard is used. The measurement complies with the requirement if the probability of its being within the limit is at least 50%.

This does not take into account the measurement uncertainty associated with the test method.

It is explicitly stated that in the case of a "pass" or "fail", the measured result is corrected for the measurement uncertainty and/or the relevant test conditions for the measured result.

Unless otherwise noted the measurement uncertainty and conditions are as specified in the test specifications.



This report is only valid when signed by the test person and reviewer.

Conclusions for compliance with e.g. product standard requirements are not part of the lab scope (RvA L248).

In case when information is supplied by the customer it is possible that it can affect the validity of results.

In case of dispute regarding this test report please contact Kiwa Nederland B.V.

Version: 004

Report number	210300673/03
Project number	P000263606
Date of issue	24-03-2023
Total number of pages	10 (excluding appendices)
Testing laboratory	KIWA Nederland B.V.
Testing location/address	Wilmersdorf 50, 7327 AC Apeldoorn, The Netherlands
Applicant's name	ASCO L.P. / Emerson
Address	160 Park Ave, NJ 07932 Florham Park, USA
Scope	Testing of ASCO 159 actuator with 158 valves regarding the requirements as derived from the below mentioned Test specifications with 100% H2.
Test specifications	
Standards	EN 161: 2022
Non-standard test method ..	Testing with 100% H2
Test item description	ASCO 159 actuator with 158 valves
Manufacturer	ASCO L.P. / Emerson
Trade Mark	ASCO 159 actuator with 158 valves
Model/Type reference	P159A/_158A model series (a full overview can be found in chapter 2: Description of the product)
Test item number(s)	A2216004 and A2216005
Date receipt of test item(s) .	October 2022
Date(s) of testing	Jan / Mar 2023
Remarks	N.A.
Summary	
Complies with the requirements as far as identified in the attached test- and result sheets.	
Tested by (name + signature)	Stevenson 
Reviewed by (name + signature)	Adelmann 

1 Summary of testing

On request of ASCO L.P. / Emerson the items as mentioned under Test item description are tested according to the Test specifications (see page 3 of this report).

The following update is made to the ASCO 159 actuator with 158 valves:

- Testing with 100% H2

Testing: leakage, before and after the endurance test, endurance test, with 100% H2.

Declaration for the testing with 100% H2.

Based on the product(s) information the test plan is not subject to any special interpretations or modifications.

2 Description of the product

The information below is based on the test results on the models under testing and the information of the manufacturer.

ASCO 159 actuator with 158 valves

PIN number: 0063DM1181

List of available types:

P159A/_158A Shut-off valve

Closing time:	< 1sec
Fast Opening time	Typical approximately 9 second At temperatures below -30 °C, actuator may take as long as 30 seconds
Slow Opening time	Typical approximately 18 second At temperatures below -30 °C, actuator may take as long as 60 seconds

Maximum Operating Pressure Differential: 1.73 bar (25 psi)

Specifications:

Class of valve	: A
Working pressure	: 1.73 bar (25 psi)
Mechanical strength group	: Group 2
Ambient temperature range	: -40 °C to +66 °C
Electrical supply	: 110/120Vac, 50/60Hz 230/240Vac, 50/60Hz
Connection (pipe) size(s)	: ¾, 1, 1-1/4, 1 ½, 2, 2-1/2, 3 NPT or ISO 7/1 "Rp"
IP protection	: IP65, IP10

Type survey:

_158A (automatic shut-off valve)

8	NPT body connections
E	ISO 7/1 "Rp" body connections
. 158	Valve body (aluminum)
.... A	Initial Release
.....1	Single Valve – Standard Trim
.....2	Single Valve – Standard with Seal Overtravel Trim
.....3	Single Valve – Linear Trim
.....4	Single Valve – Linear with Seal Overtravel Trim
.....5	Monoblock Valve – Valve 1: Standard Trim/ Valve 2: Standard Trim
.....6	Monoblock valve – Valve 1: Standard with Seal Overtravel Trim/ Valve 2: Standard with Seal Overtravel Trim
.....7	Monoblock Valve – Valve 1: Standard Trim/ Valve 2: Linear Trim
.....8	Monoblock Valve – Valve 1: Standard with Seal Overtravel Trim/ Valve 2: Linear with Seal Overtravel Trim
.....A	Monoblock Valve – Valve 1: Standard Trim/ Valve 2: Standard with Seal Overtravel Trim
.....C	Monoblock Valve – Valve 1: Standard Trim/ Valve 2: Linear with Seal Overtravel Trim
..... 00	No Pipe Connection – Medium Body
..... 01	No Pipe Connection – Large Body
..... 11	¾ (DN 20)
..... 12	1 (DN 25)
..... 13	1 ¼ (DN 32)
..... 14	1 ½ (DN 40)
..... 16	2 (DN 50)
..... 36	2 – High Flow (DN 50)
..... 18	2 ½ (DN 65)
..... 16	3 (DN 80)
..... X1	NPT (Body connection type 8)
..... X2	ISO 7/1 "Rp" (Body connection type E)
..... X00	None
..... X01	Strainer
..... X08	Strainer + Silicone Free
..... X15	Silicone Free
..... 00	None

Type survey:
P159A (actuator)

P	No connection
. 159	Actuator
.... A	Initial Release
.....1	On/Off Actuator
.....2	Hi/Low/Off Actuator
.....10	Watertight – Slow Opening (**)
.....11	Watertight – Fast Opening (**)
.....20	General Purpose – Slow Opening (*)
.....21	General Purpose – Fast Opening (*)
..... X1	½": For use with ½" threaded fittings
..... X2	M20: For use with M20 type threaded fittings
..... X0	None
..... X1	Damper Shaft with Arm
..... X2	Damper Shaft
..... 1	None
..... 2	Auxiliary Switch
..... 3	Proof-of-closure Switch
..... 4	Auxiliary Switch & Proof-of-closure Switch
..... 5	Two Auxiliary Switches
..... F0	120/60, 110/50
..... CU	240/60, 230/50

(*) - IP10
(**) - IP65

3 Report history

Report number..... :	210300673
Project number	210300673
Author. :	Stevenson
Description..... :	Initial report
Report number..... :	210300673/01
Project number	P000124079
Author. :	Stevenson
Description..... :	<p>The following modifications are included:</p> <ul style="list-style-type: none"> - Existing Teflon tape with set-screws will be replaced by new set-screws with O-ring - Housing and front cover assembly will be updated to incorporate the item above <p style="padding-left: 40px;">Pinch points will be added to the existing window for assembly ease</p> <p style="text-align: right;">Reason: for manufacturing ease</p>
Report number..... :	210300673/02
Project number	P000262606
Author. :	Stevenson
Description..... :	<p>The following modifications are included:</p> <ul style="list-style-type: none"> • Increase of the max. pressure to 25 PSI (1.73 bar) • Drawing update (minor changes, which does not affect the safety of behaviour of the valve) and update manual / instruction <p>Testing: leakage, before and after the endurance test, endurance test.</p> <p>Update of the certificate and appendix to the new max. pressure and new version of the standard (no extra tests are required for this update).</p>

Report number :	210300673/03
Project number :	P000262606
Author. :	Stevenson
Description :	The following update is included: <ul style="list-style-type: none">• Testing with 100% H2 • Testing: leakage, before and after the endurance test, endurance test with 100% H2 • Declaration for testing with 100% H2

4 Appendices

Appendix 1..... : Result sheets: 3 pages

End of report