

## LLOYD'S REGISTER TYPE APPROVAL SYSTEM, TA14

Issued by: Rotterdam Technical Support Office

Issued to: Wouter Witzel Eurovalve B.V.

For: Butterfly Valve, EV-i Range, DN400-DN600

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System TA14 and this Design Appraisal Document forms part of the Certificate.

### APPROVAL DOCUMENTATION

DTAFA003-A, Butterfly Valve, EVS-I Free Shaft, DN400-600, GA Drawing .....	dated 2020-02-01
DTAFA004-A, Butterfly Valve, EVTLS-I Free Shaft, DN400-DN600, GA Drawing .....	dated 2020-02-01
DTAFA005-A, Butterfly Valve, EVFS-I Free Shaft, DN400-600, GA Drawing .....	dated 2020-02-01
FBA1601-A, Body Casted, EVS-I DN400, rev.-- .....	19-07-2018
FBA1800-B, Body Casted, EVS-I DN450, rev.B .....	19-09-2018
FBA2000-A, Body Casted, EVS-I DN500, rev.-- .....	23-03-2018
FBA2400-A, Body Casted, EVS-I DN600, rev.-- .....	23-03-2018
FBC1600-A, Body Casted, EVFS-I DN400, rev.-- .....	23-03-2018
FBC1800-A, Body Casted, EVFS-I DN450, rev.-- .....	23-03-2018
FBC2000-B, Body Casted, EVFS-I DN500, rev.B .....	19-09-2018
FBC2400-A, Body Casted, EVFS-I DN600, rev.-- .....	23-03-2018
FCA1601-B, Body Machined, EVS-I DN400, rev.B .....	03-04-2019
FCA1800-B, Body Machined, EVS-I DN450, rev.B .....	03-04-2019
FCA2000-B, Body Machined, EVS-I DN500, rev.B .....	03-04-2019
FCA2400-B, Body Machined, EVS-I DN600, rev.B .....	03-04-2019
FCC1600-B, Body Machined, EVFS-I DN400, rev.B .....	27-03-2019
FCC1800-B, Body Machined, EVFS-I DN450, rev.B .....	27-03-2019
FCC2000-C, Body Machined, EVFS-I DN500, rev.C .....	27-03-2019
FCC2401-B, Body Machined, EVFS-I DN600, rev.B .....	29-03-2019
PDS01.61.001, Product Data Sheet - 6 Wouter Witzel - EVS-i, .....	24.01.2020
PDS01.62.001, Product Data Sheet - 6 Wouter Witzel - EVTLS-i, .....	24.01.2020
PDS01.63.001, Product Data Sheet - 6 Wouter Witzel - EVFS-i, .....	24.01.2020
GD102.01.01.001, Design Calculation, Body EV-i Series, Wafer, DN400, FCA1601 .....	28-01-2020
GD102.01.01.001, Design Calculation, Body EV-i Series, Wafer, DN450, FCA1800 .....	28-01-2020
GD102.01.01.001, Design Calculation, Body EV-i Series, Wafer, DN500, FCA2000 .....	28-01-2020
GD102.01.01.001, Design Calculation, Body EV-i Series, Wafer, DN600, FCA2400 .....	28-01-2020
GD102.01.01.001, Design Calculation, Body EV-i Series, Double Flange, DN400, FCC1600 .....	28-01-2020
GD102.01.01.001, Design Calculation, Body EV-i Series, Double Flange, DN450, FCC1800 .....	28-01-2020
GD102.01.01.001, Design Calculation, Body EV-i Series, Double Flange, DN500, FCC2000 .....	28-01-2020
GD102.01.01.001, Design Calculation, Body EV-i Series, Double Flange, DN600, FCC2400 .....	28-01-2020

<b><u>MATERIALS:-</u></b>					
Body	Ductile Iron	5.3106	(EN-JS 1030)	EN 1563:2011	
	Ductile Iron	5.3103	(EN-JS 1049)	EN 1563 :2011	
	Ductile Iron	Grade 60-40-18		ASTM A-395:2015	
	Ductile Iron	Grade 60-40-18		ASTM A-536:2004	
	Cast Steel	Gr.WCB	UNS J03002	ASME SA-216:2015	
	Cast Steel	Gr. LCB	UNS J03003	ASME SA-352:2015	
	Cast Steel	1.0619	(GP240GH)	EN 10213:2014	
	Cast Iron	5.1301	(EN-JL1040)	EN 1561:2011	
	Bronze	2.1086.01	G-CuSn10Zn	DIN 1705	
	Bronze	CuSn10-C (CC480K)		EN 1982: 2017	
	Alu Bronze	Cu Al 10 Fe5 Ni 5-C (CC333G)		EN 1982: 2017	
	Alu Bronze	UNS C95800		ASME SB-148:2019	
	Disc	Stainless Steel	1.4057	(X17 CrNi 16-2)	EN 10088-3:2014
		Stainless Steel	1.4462	(X2 CrNi Mo N 22-5-3)	EN 10222-5:2017
		Stainless Steel	1.4469	(GX2 CrNi Mo N 26-7-4 )	EN 10213:2007+A1:2016
		Stainless Steel	1.4408	(GX5 CrNi Mo 19-11-2)	EN 10213:2007+A1:2016
Stainless Steel		1.4517	(GX2 CrNi Mo CuN 25-6-3-3)	EN 10213:2007+A1:2016	
Alu Bronze		Cu Al 10 Fe5 Ni 5-C (CC333G)		EN 1982:2008	
Alu Bronze		Grade D	UNS C95500	ASME SB-148 :2015	
Alu Bronze		UNS C95800		ASME SB-148:2015	
Stainless Steel		Grade 5A	UNS J93404	ASTM A890:2012	
Stainless Steel		Grade F51	UNS S31603	ASTM A-182: 2004	
Stainless Steel		CF8M	UNS J92900	ASME SA-351:2015	
Nickel Alloy (Cast)		CW6MC	UNS N26625	ASME SA-494 :2015	
Ductile Iron		5.3106	(EN-JS 1030)	EN 1563:2018	
Ductile Iron		Grade 60-40-18		ASTM A-395:2018	
Ductile Iron		Grade 60-40-18		ASTM A-536:2004	
Shaft		Stainless Steel	1.4057	(X17 CrNi 16-2)	EN 10088-3
	Stainless Steel	1.4462	(X2 CrNi Mo N 22-5-3)	EN 10088-3	
	Stainless Steel	1.4501	(X2 CrNi MoCu WN 25-7-4)	EN 10272	
	Alu Bronze	Cu Al 10 NiFe4 – R740 (CW307G)		EN 1982:2008	
	Nickel Alloy	NA 18 (Monel K-500)		BS 3076:1989	
	Seat	Ethylene Propylene Diene Rubber	(EPDM)		ISO 1629
Nitrile Butadien Rubber		(NBR)		ISO 1629	
Fluoro Rubber		(FPM)		ISO 1629	
Fluoro Rubber		(FKM)		ISO 1629	
Silicon Rubber		(VMQ)		ISO 1629	

**TEST REPORTS**

ED 901.01.029, Type Testing of Butterfly Valve – EV-i range – DN400, 450, 500 and 600 .....dated 16-09-2020

Matthijs Breel  
Lead Specialist Propulsion Systems and  
Deputy to Lloyd's Register EMEA  
A member of the Lloyd's Register Group

**Supplementary Type Approval Terms and Conditions**

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.*