

INDEX MANUAL VALVES					
SHAW FIG. No.	Pressure Designation	Nominal Size		APPLICABLE DRAWING	
		DN	NPS	DRG.No.	REV
LM6420EC	Class 300	25, 40, 50	1, 1 1/2, 2	OS4431	0
LM6320EC	Class 300				
LM6620EC	PN40				
LM6421EC	Class 300	25, 40, 50 80, 100, 150	1, 1 1/2, 2 3, 4, 6	OS4432 OS4433	0 0
LM6321EC	Class 300				
LM6621EC	PN40				
LM6422EC	Class 300	25, 40, 50 80, 100, 150	1, 1 1/2, 2 3, 4, 6	OS4434 OS4435	0 0
LM6322EC	Class 300				
LM6621EC	PN40				

MAY-2023

REV.	A	B	C	D	E	F	
DESCRIPTION							
DATE							
BY							
CHKD							
ARRANGEMENT OF FIG. LM6420EC		DRAWN		DATE		NAME	
BELLOWS SEALED GLOBE VALVE		11.3.20		O.Kitchingman			
		CHECKED					
		APPROVED					
		PROJECTION		PRINT DUT.		A3	
		DESCRIPTION					
		BRIDGEHOUSE W. YORKSHIRE					
		ENGLAND					
		DRAWING--					
		OS4431					
		ACAD					

ITEM No.	DESCRIPTION	MATERIAL	SPECIFICATION	No. OFF
1	BODY	LOW TEMP CAST STEEL OR	ASTM A352 LCC	1
2	BONNET	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
3	DISC	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
4	STEM	STAINLESS STEEL	ASTM A479 316L (1.4404)	1
5	GUIDE PILLAR	MILD STEEL	BS.970 070 M20	2
6	CROSSHEAD	MILD STEEL	BS.970 070 M20	1
7	PACKING GLAND	STAINLESS STEEL	BS.970 316 S31	1
8	SCREWED SLEEVE	S.G. CAST IRON	EN 1563 EN-GJS-400-15 (JS1030)	1
9	GUIDE BRIDGE	MILD STEEL	BS.970 070 M20	1
10	CAP NUT	MILD STEEL	BS.970 230 M07	1
11	HANDWHEEL	S.G. CAST IRON	BS EN 1563 GRD EN-JS1072	1
12	DISC NUT	STAINLESS STEEL	ASTM A479 316 (1.4401)	1
13	PLUG	MILD STEEL	BS.970 080 A15	1
14	GLAND FLANGE	MILD STEEL	BS.970 080 A15	1
15	RECTANGULAR KEY	STEEL	PROPRIETARY	1
16	NUTS(PILLAR)'NYLOC'	STEEL	PROPRIETARY	4
17	NUTS(BODY)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L	8
18	NUTS(GLAND)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L Xylan 1270 COATED	6
19	LUBRICATING NIPPLE	STEEL	PROPRIETARY	1
20	STUDS(GLAND)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7 Xylan 1270 COATED	2
21	STUDS(BODY)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7	4
22	LOCKING WASHER	MONEL 400		1
23	LOCKING WASHER	STAINLESS STEEL	ASTM 316	1
24	NAMEPLATE	STAINLESS STEEL	ASTM 316	1
25	BELLOWS	STAINLESS STEEL	AISI 316Ti (1.4571)	1
26	GASKET	GYLON 3510	PROPRIETARY	1
27	SPLIT RING	STAINLESS STEEL	ASTM A479 316 (1.4401)	1
28	SEAL (GLAND)	NITRILE		1
29	SEAL (STUFFING BOX)	NITRILE		1
	GLAND PACKING	PTFE	PROPRIETARY	Var

PRESSURE/TEMPERATURE RATING

THE ALLOWABLE PRESSURE/TEMPERATURE RATING IS GIVEN IN BS. EN. 1092-1 FOR PN FLANGED VALVES AND BS EN 1759-1 FOR CLASS FLANGED VALVE FOR THE APPROPRIATE BODY/BONNET MATERIAL.

ADDITIONAL TEMPERATURE LIMITS ARE STATED ON THE NAMEPLATE AND ARE IMPOSED FOR CHLORINE SERVICE. I.E. 120°C MAXIMUM OR FOR REASONS OF MATERIAL SELECTION.

DESPATCH CONDITION:

EXTERNAL SURFACES UNLESS OTHERWISE SPECIFIED IN THE CONTRACT ARE ZINC PHOSPHATE PRIMED AND FINISHED IN EPOXY HIGH BUILD GLOSS.

EACH VALVE IS SOAKED IN DRY HEAT AT 130°C FOR 3 HOURS MIN.

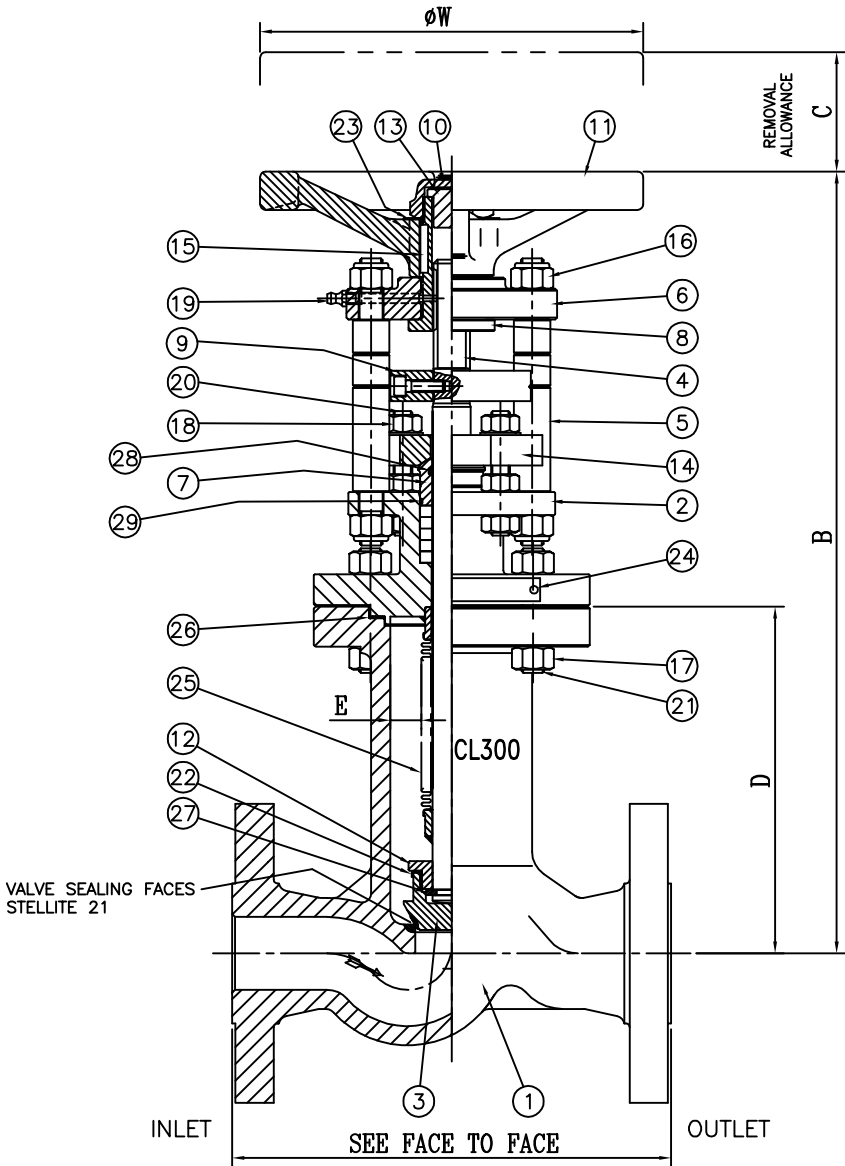
VALVE PIPE FLANGES ARE BLANKED OFF WITH SILICA GEL DESICCANT SACHET ATTACHED TO END PLATES.

SIZE	25	40	50
B	378	409	415
C	146	170	170
D	156	181	187
E	10.5	16	16
W	150	200	260
APPROX. WT(Kg.)	16	21	25

FACE TO FACE
THE FACE TO FACE DIMENSION FOR THE APPROPRIATE FIGURE NUMBER AND FLANGE IS GIVEN BELOW

FIG No	FLANGE	SIZE BS EN 309	25	40	50
LM6420EC	CLASS 300 RF	BASIC SERIES 21	203	229	267
LM6320EC	CLASS 300 RF	BASIC SERIES 4	165	190	216
LM6620EC	PN40 TYPE 'B1'	BASIC SERIES 1	160	200	230

FLANGES: THE DIMENSIONS OF THE FLANGES ARE GIVEN IN BS EN 1092-1 FOR PN FLANGED VALVES AND BS EN 1759 FOR CLASS FLANGED VALVES.



QUALITY APPROVALS
APPROVED TO ISO 9001:2015 BY LRQA.
APPROVAL NUMBER: ISO 9001 - 0004073
STOOMWEZEN
EURO - CHLOR

DESIGN FEATURES
PRINCIPAL VALVE DESIGN FEATURES CONFORM TO THE REQUIREMENTS OF
EURO - CHLOR GEST 17/492 ED.2 2021.
BELLOWS PROOF CYCLE TESTED PER BS.5352
APPENDIX 'C'
INTERNAL VALVE LUBRICANTS - CHLORINE COMPATIBLE

PRODUCTION TESTS
1. HYDRAULIC PRESSURE TEST OF BODY BONNET & BELLOWS AT 1.5 x P_n
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
2. PNEUMATIC PRESSURE TEST OF ASSEMBLED VALVE USING NITROGEN (OXYGEN FREE) - BODY & SEAT AT 1.1 x P_n
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
3. HELIUM LEAK TEST OF BELLOWS UNIT AT 1ATM USING MASS SPECTROMETER.
ACCEPTANCE CRITERIA - MAXIMUM ALLOWABLE LEAKAGE RATE 10⁻⁴ CM³/S

REV.	A	B	C	D	E	F
DESCRIPTION						
DATE						
BY						
CHKD						
DRAWN		DATE		NAME		
CHECKED		11.3.20		O.Kitchingman		
APPROVED						
PROJECT		PRINT OUT		A3		
DESCRIPTION		ARRANGEMENT OF FIG. LM6421EC		DRAWING--		
BELLOWS SEALED GLOBE VALVE				OS4432		
		BRIGHOUSE W. YORKSHIRE ENGLAND		ACAD		

ITEM No.	DESCRIPTION	MATERIAL	SPECIFICATION	No. OFF
1	BODY	LOW TEMP CAST STEEL OR	ASTM A352 LCC	1
2	BONNET	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
3	DISC	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
4	STEM	STAINLESS STEEL	ASTM A479 316L (1.4404)	1
5	GUIDE PILLAR	MILD STEEL	BS.970 070 M20	2
6	CROSSHEAD	MILD STEEL	BS.970 070 M20	1
7	PACKING GLAND	STAINLESS STEEL	BS.970 316 S31	1
8	SCREWED SLEEVE	S.G. CAST IRON	EN 1563 EN-GJS-400-15 (JS1030)	1
9	GUIDE BRIDGE	MILD STEEL	BS.970 070 M20	1
10	CAP NUT	MILD STEEL	BS.970 230 M07	1
11	HANDWHEEL	S.G. CAST IRON	BS EN 1563 GRD EN-JS1072	1
12	DISC NUT	STAINLESS STEEL	ASTM A479 316 (1.4401)	1
13	PLUG	MILD STEEL	BS.970 080 A15	1
14	GLAND FLANGE	MILD STEEL	BS.970 080 A15	1
15	RECTANGULAR KEY	STEEL	PROPRIETARY	1
16	NUTS(PILLAR)'NYLOC'	STEEL	PROPRIETARY	4
17	NUTS(BODY)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L	8
18	NUTS(GLAND)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L Xylan 1270 COATED	6
19	LUBRICATING NIPPLE	STEEL	PROPRIETARY	1
20	STUDS(GLAND)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7 Xylan 1270 COATED	2
21	STUDS(BODY)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7	4
22	LOCKING WASHER	MONEL 400		1
23	LOCKING WASHER	STAINLESS STEEL	ASTM 316	1
24	NAMEPLATE	STAINLESS STEEL	ASTM 316	1
25	BELLOWS	HASTELLOY	HASTELLOY C276 (N10276) (2.4819)	1
26	GASKET	GYLON 3510	PROPRIETARY	1
27	SPLIT RING	STAINLESS STEEL	ASTM A479 316 (1.4401)	1
28	SEAL (GLAND)	NITRILE		1
29	SEAL (STUFFING BOX)	NITRILE		1
	GLAND PACKING	PTFE	PROPRIETARY	Var

PRESSURE/TEMPERATURE RATING

THE ALLOWABLE PRESSURE/TEMPERATURE RATING IS GIVEN IN BS. EN. 1092-1 FOR PN FLANGED VALVES AND BS EN 1759-1 FOR CLASS FLANGED VALVE FOR THE APPROPRIATE BODY/BONNET MATERIAL.

ADDITIONAL TEMPERATURE LIMITS ARE STATED ON THE NAMEPLATE AND ARE IMPOSED FOR CHLORINE SERVICE. I.E. 120°C MAXIMUM OR FOR REASONS OF MATERIAL SELECTION.

DESPATCH CONDITION:

EXTERNAL SURFACES UNLESS OTHERWISE SPECIFIED IN THE CONTRACT ARE ZINC PHOSPHATE PRIMED AND FINISHED IN EPOXY HIGH BUILD GLOSS.

EACH VALVE IS SOAKED IN DRY HEAT AT 130°C FOR 3 HOURS MIN.

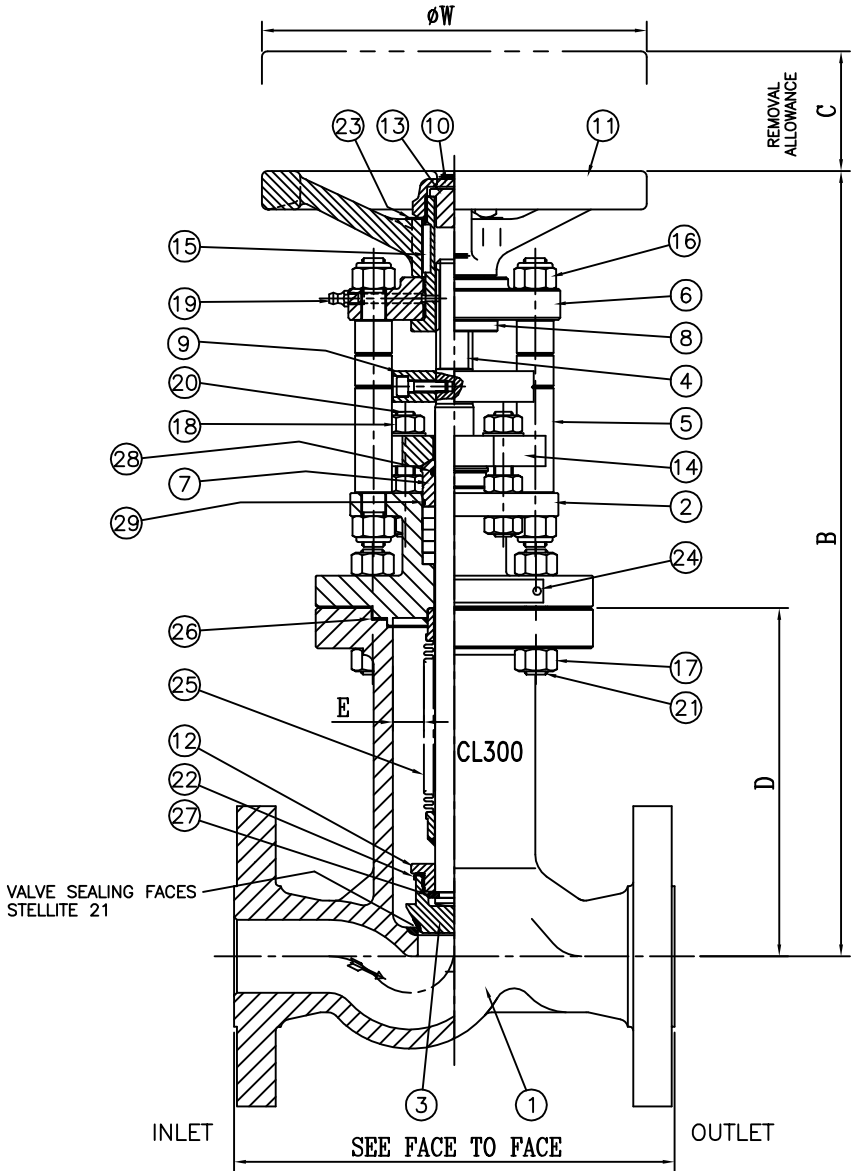
VALVE PIPE FLANGES ARE BLANKED OFF WITH SILICA GEL DESICCANT SACHET ATTACHED TO END PLATES.

SIZE	25	40	50
B	378	409	415
C	146	170	170
D	156	181	187
E	10.5	16	16
W	150	200	260
APPROX. WT(Kg.)	16	21	25

FACE TO FACE
THE FACE TO FACE DIMENSION FOR THE APPROPRIATE FIGURE NUMBER AND FLANGE IS GIVEN BELOW

FIG No	FLANGE	SIZE BS EN 359	25	40	50
LM6421EC	CLASS 300 RF	BASIC SERIES 21	203	229	267
LM6321EC	CLASS 300 RF	BASIC SERIES 4	165	190	216
LM6621EC	PN40 TYPE 'B1'	BASIC SERIES 1	160	200	230

FLANGES: THE DIMENSIONS OF THE FLANGES ARE GIVEN IN BS EN 1092-1 FOR PN FLANGED VALVES AND BS EN 1759 FOR CLASS FLANGED VALVES.



QUALITY APPROVALS
APPROVED TO ISO 9001:2015 BY LRQA.
APPROVAL NUMBER: ISO 9001 - 0004073
STOOMWEZEN
EURO - CHLOR

DESIGN FEATURES
PRINCIPAL VALVE DESIGN FEATURES CONFORM TO THE REQUIREMENTS OF
EURO - CHLOR GEST 17/492 ED.2 2021.
BELLOWS PROOF CYCLE TESTED PER BS.5352
APPENDIX 'C'
INTERNAL VALVE LUBRICANTS - CHLORINE COMPATIBLE

PRODUCTION TESTS
1. HYDRAULIC PRESSURE TEST OF BODY BONNET & BELLOWS AT 1.5 x P_a
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
2. PNEUMATIC PRESSURE TEST OF ASSEMBLED VALVE USING NITROGEN (OXYGEN FREE) - BODY & SEAT AT 1.1 x P_a
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
3. HELIUM LEAK TEST OF BELLOWS UNIT AT 1ATM USING MASS SPECTROMETER.
ACCEPTANCE CRITERIA - MAXIMUM ALLOWABLE LEAKAGE RATE 10⁻⁶ CM³/S

REV.

A

B

C

D

E

F

DESCRIPTION

DATE

BY

CHKD

DATE

NAME

DESCRIPTION

ARRANGEMENT OF FIG. LM6421EC

BELLOWS SEALED GLOBE VALVE

DRAWING--

OS4433

ACAD

BRIGHOUSE W. YORKSHIRE

ENGLAND

ENGINEERING LTD.

BLACKHALL

DRAWN

CHECKED

APPROVED

PROJECT

PRINT OUT

A3

11.3.20

O.Kitchingman

ITEM No.	DESCRIPTION	MATERIAL	SPECIFICATION	No. OFF
1	BODY	LOW TEMP. CAST STEEL OR	ASTM A352 LCC	1
2	BONNET	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
3	DISC	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
4	STEM	STAINLESS STEEL	ASTM A479 316L (1.4404)	1
		DUPLEX STAINLESS STEEL	ASTM A479 S31803	1
5	GUIDE PILLAR	MILD STEEL	BS.970 070 M20	2
6	CROSSHEAD	MILD STEEL	BS.970 070 M20	1
7	PACKING GLAND	STAINLESS STEEL	BS.970 316 S31	1
8	SCREWED SLEEVE	S.G. CAST IRON	EN 1563 EN-GJS-400-15 (JS1030)	1
			EN 1563 EN-GJS-600-3 (JS1060)	1
9	GUIDE BRIDGE	MILD STEEL	BS.970 070 M20	1
10	CAP NUT	MILD STEEL	BS.970 230 M07	1
11	HANDWHEEL	S.G. CAST IRON	BS EN 1563 GRD. EN-JS1072	1
12	DISC NUT	STAINLESS STEEL	ASTM A479 316 (1.4401)	1
13	PLUG	MILD STEEL	BS.970 080 A15	1
14	GLAND FLANGE	MILD STEEL	BS.970 080 A15	1
15	RECTANGULAR KEY	STEEL	PROPRIETARY	1
16	NUTS(PILLAR)'NYLOC'	STEEL	PROPRIETARY	2
17	NUTS(BODY)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L	Var
18	NUTS(GLAND)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L Xylan 1270 COATED	6
19	LUBRICATING NIPPLE	STEEL	PROPRIETARY	1
20	STUDS(GLAND)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7 Xylan 1270 COATED	2
21	STUDS(BODY)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7	Var
22	LOCKING WASHER	MONEL 400		1
23	LOCKING WASHER	STAINLESS STEEL	ASTM 316	1
24	NAMEPLATE	STAINLESS STEEL	ASTM 316	1
25	BEARING CAGE	STEEL	PROPRIETARY	2
26	BEARING WASHER	STEEL	PROPRIETARY	4
27	BELLOWS	HASTELLOY	HASTELLOY C276 (N10276) (2.4819)	1
28	GASKET	GYLON 3510	PROPRIETARY	1
29	SPLIT WASHER	STAINLESS STEEL	ASTM A479 316 (1.4401)	1
30	SEAL (GLAND)	NITRILE		1
31	SEAL (STUFFING BOX)	NITRILE		1
	GLAND PACKING	PTFE	PROPRIETARY	Var

PRESSURE/TEMPERATURE RATING

THE ALLOWABLE PRESSURE/TEMPERATURE RATING IS GIVEN IN BS. EN. 1092-1 FOR PN FLANGED VALVES AND BS. EN. 1759-1 FOR CLASS FLANGED VALVE FOR THE APPROPRIATE BODY/BONNET MATERIAL. ADDITIONAL TEMPERATURE LIMITS ARE STATED ON THE NAMEPLATE AND ARE IMPOSED FOR CHLORINE SERVICE I.E. 120°C MAXIMUM OR FOR REASONS OF MATERIAL SELECTION.

DESPATCH CONDITION:

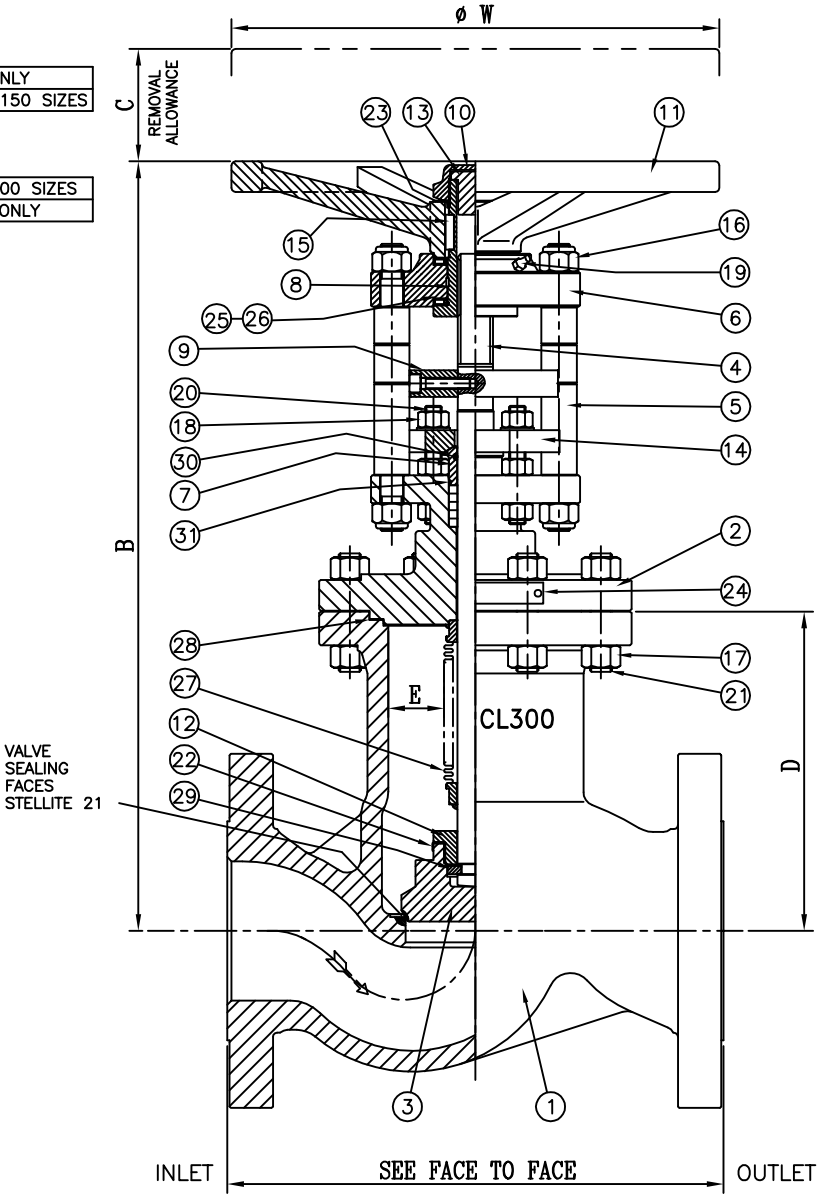
EXTERNAL SURFACES UNLESS OTHERWISE SPECIFIED IN THE CONTRACT ARE ZINC PHOSPHATE PRIMED AND FINISHED IN EPOXY HIGH BUILD GLOSS. EACH VALVE IS SOAKED IN DRY HEAT AT 130°C FOR 3 HOURS MIN. VALVE PIPE FLANGES ARE BLANKED OFF WITH SILICA GEL DESICCANT SACHET ATTACHED TO END PLATES.

SIZE	80	100	150
B	512	522	699
C	212	226	295
D	212	229	302
E	22.5	40	64.5
W	350	350	500
APPROX. WT(Kg.)	61	85	185

FACE TO FACE
THE FACE TO FACE DIMENSION FOR THE APPROPRIATE FIGURE NUMBER AND FLANGE IS GIVEN BELOW

FIG No	FLANGE	SIZE BS EN 1092-1	80	100	150
LM6421EC	CLASS 300 RF	BASIC SERIES 21	318	356	444
LM6321EC	CLASS 300 RF	BASIC SERIES 4	283	305	403
LM6621EC	PN40 TYPE 'B1'	BASIC SERIES 1	310	350	480

FLANGES: THE DIMENSIONS OF THE FLANGES ARE GIVEN IN BS EN 1092-1 FOR PN FLANGED VALVES AND BS EN 1759-1 FOR CLASS FLANGED VALVES



QUALITY APPROVALS
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APPROVAL NUMBER: ISO 9001 - 0004073
STOOMWEZEN
EURO - CHLOR

DESIGN FEATURES
PRINCIPAL VALVE DESIGN FEATURES CONFORM TO THE REQUIREMENTS OF
EURO - CHLOR GEST 17/492 ED.2 2021.
BELLOWS PROOF CYCLE TESTED PER BS.5352
APPENDIX 'C'
INTERNAL VALVE LUBRICANTS - CHLORINE COMPATIBLE

PRODUCTION TESTS
1. HYDRAULIC PRESSURE TEST OF BODY BONNET & BELLOWS AT 1.5 x P_h
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
2. PNEUMATIC PRESSURE TEST OF ASSEMBLED VALVE USING NITROGEN (OXYGEN FREE) - BODY & SEAT AT 1.1 x P_h
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
3. HELIUM LEAK TEST OF BELLOWS UNIT AT 1ATM USING MASS SPECTROMETER.
ACCEPTANCE CRITERIA - MAXIMUM ALLOWABLE LEAKAGE RATE 10⁻⁶ CM³/S

REV.	A	B	C	D	E	F
DESCRIPTION						
DATE						
BY						
CHKD						
ARRANGEMENT OF FIG. LM6422EC						
BELLWS SEALED GLOBE VALVE						
DRAWING:-						
OS4434						
ACAD						

ITEM No.	DESCRIPTION	MATERIAL	SPECIFICATION	No. OFF
1	BODY	LOW TEMP CAST STEEL OR	ASTM A352 LCC	1
2	BONNET	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
3	DISC	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
4	STEM	HASTELLOY	HASTELLOY C22	1
5	GUIDE PILLAR	MILD STEEL	BS.970 070 M20	2
6	CROSSHEAD	MILD STEEL	BS.970 070 M20	1
7	PACKING GLAND	STAINLESS STEEL	BS.970 316 S31	1
8	SCREWED SLEEVE	S.G. CAST IRON	EN 1563 EN-GJS-400-15 (JS1030)	1
9	GUIDE BRIDGE	MILD STEEL	BS.970 070 M20	1
10	CAP NUT	MILD STEEL	BS.970 230 M07	1
11	HANDWHEEL	S.G. CAST IRON	BS EN 1563 GRD EN-JS1072	1
12	DISC NUT	MONEL 400	ASTM B164 UNS N04400	1
13	PLUG	MILD STEEL	BS.970 080 A15	1
14	GLAND FLANGE	MILD STEEL	BS.970 080 A15	1
15	RECTANGULAR KEY	STEEL	PROPRIETARY	1
16	NUTS(PILLAR)'NYLOC'	STEEL	PROPRIETARY	4
17	NUTS(BODY)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L	8
18	NUTS(GLAND)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L Xylan 1270 COATED	6
19	LUBRICATING NIPPLE	STEEL	PROPRIETARY	1
20	STUDS(GLAND)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7 Xylan 1270 COATED	2
21	STUDS(BODY)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7	4
22	LOCKING WASHER	MONEL 400		1
23	LOCKING WASHER	STAINLESS STEEL	ASTM 316	1
24	NAMEPLATE	STAINLESS STEEL	ASTM 316	1
25	BELLWS	HASTELLOY	HASTELLOY C276 (N10276) (2.4819)	1
26	GASKET	GYLON 3510	PROPRIETARY	1
27	SPLIT RING	MONEL 400	ASTM B164 UNS N04400	1
28	SEAL (GLAND)	NITRILE		1
29	SEAL (STUFFING BOX)	NITRILE		1
	GLAND PACKING	PTFE	PROPRIETARY	Var
PRESSURE/TEMPERATURE RATING				
THE ALLOWABLE PRESSURE/TEMPERATURE RATING IS GIVEN IN BS. EN. 1092-1 FOR PN FLANGED VALVES AND BS EN 1759-1 FOR CLASS FLANGED VALVE FOR THE APPROPRIATE BODY/BONNET MATERIAL. ADDITIONAL TEMPERATURE LIMITS ARE STATED ON THE NAMEPLATE AND ARE IMPOSED FOR CHLORINE SERVICE. I.E. 120°C MAXIMUM OR FOR REASONS OF MATERIAL SELECTION.				
DESPATCH CONDITION:				
EXTERNAL SURFACES UNLESS OTHERWISE SPECIFIED IN THE CONTRACT ARE ZINC PHOSPHATE PRIMED AND FINISHED IN EPOXY HIGH BUILD GLOSS. EACH VALVE IS SOAKED IN DRY HEAT AT 130°C FOR 3 HOURS MIN. VALVE PIPE FLANGES ARE BLANKED OFF WITH SILICA GEL DESICCANT SACHET ATTACHED TO END PLATES.				

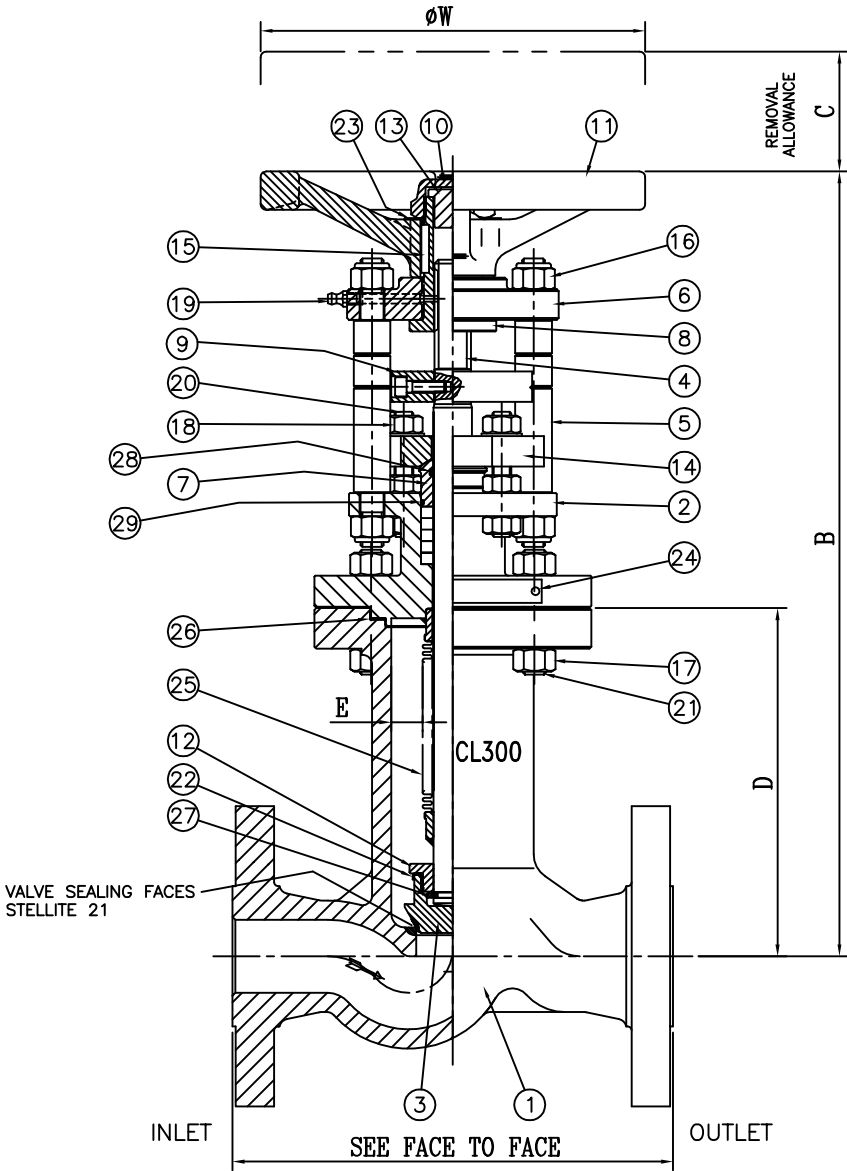
SIZE	25	40	50
B	378	409	415
C	146	170	170
D	156	181	187
E	10.5	16	16
W	150	200	260
APPROX. WT(Kg.)	16	21	25

FACE TO FACE

THE FACE TO FACE DIMENSION FOR THE APPROPRIATE FIGURE NUMBER AND FLANGE IS GIVEN BELOW

FIG No	FLANGE	SIZE BS EN 1092-1	25	40	50
LM6422EC	CLASS 300 RF	BASIC SERIES 21	203	229	267
LM6322EC	CLASS 300 RF	BASIC SERIES 4	165	190	216
LM6622EC	PN40 TYPE 'B1'	BASIC SERIES 1	160	200	230

FLANGES: THE DIMENSIONS OF THE FLANGES ARE GIVEN IN BS EN 1092-1 FOR PN FLANGED VALVES AND BS EN 1759 FOR CLASS FLANGED VALVES.



QUALITY APPROVALS

APPROVED TO ISO 9001:2015 BY LRQA.
APPROVAL NUMBER: ISO 9001 - 0004073
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EURO - CHLOR

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PRINCIPAL VALVE DESIGN FEATURES CONFORM TO THE REQUIREMENTS OF
EURO - CHLOR GEST 17/492 ED.2 2021.
BELLWS PROOF CYCLE TESTED PER BS.5352
APPENDIX 'C'
INTERNAL VALVE LUBRICANTS - CHLORINE COMPATIBLE

PRODUCTION TESTS

1. HYDRAULIC PRESSURE TEST OF BODY BONNET & BELLWS AT 1.5 x P_n
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
2. PNEUMATIC PRESSURE TEST OF ASSEMBLED VALVE USING NITROGEN (OXYGEN FREE) - BODY & SEAT AT 1.1 x P_n
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
3. HELIUM LEAK TEST OF BELLWS UNIT AT 1ATM USING MASS SPECTROMETER.
ACCEPTANCE CRITERIA - MAXIMUM ALLOWABLE LEAKAGE RATE 10⁻⁶ CM³/S

REV.	A	B	C	D	E	F
DESCRIPTION						
DATE						
BY						
CHKD						
DRAWN		CHECKED		DATE		NAME
11.3.20						O.Kitchingman
APPROVED		PROJECTOR		PRINT OUT		A3
ARRANGEMENT OF FIG. LM6422EC		DRAWING--		BRIGHOUSE W. YORKSHIRE		ENGLAND
BELLWS SEALED GLOBE VALVE		OS4435		ACAD		BLACKHALL ENGINEERING LTD.

ITEM No.	DESCRIPTION	MATERIAL	SPECIFICATION	No. OFF
1	BODY	LOW TEMP. CAST STEEL OR	ASTM A352 LCC	1
2	BONNET	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
3	DISC	LOW TEMP. FORGED STEEL	ASTM A350 LF2	1
4	STEM	HASTELLOY	HASTELLOY C22	1
5	GUIDE PILLAR	MILD STEEL	BS.970 070 M20	2
6	CROSSHEAD	MILD STEEL	BS.970 070 M20	1
7	PACKING GLAND	STAINLESS STEEL	BS.970 316 S31	1
8	SCREWED SLEEVE	S.G. CAST IRON	EN 1563 EN-GJS-400-15 (JS1030)	1
9	GUIDE BRIDGE	MILD STEEL	BS.970 070 M20	1
10	CAP NUT	MILD STEEL	BS.970 230 M07	1
11	HANDWHEEL	S.G. CAST IRON	BS EN 1563 GRD. EN-JS1072	1
12	DISC NUT	MONEL 400	ASTM B164 UNS N04400	1
13	PLUG	MILD STEEL	BS.970 080 A15	1
14	GLAND FLANGE	MILD STEEL	BS.970 080 A15	1
15	RECTANGULAR KEY	STEEL	PROPRIETARY	1
16	NUTS(PILLAR)'NYLOC'	STEEL	PROPRIETARY	2
17	NUTS(BODY)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L	Var
18	NUTS(GLAND)	CARBON-MOLYBDENUM STEEL	ASTM A194 GRD.4L Xylan 1270 COATED	6
19	LUBRICATING NIPPLE	STEEL	PROPRIETARY	1
20	STUDS(GLAND)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7 Xylan 1270 COATED	2
21	STUDS(BODY)	CHROM-MOLYBDENUM STEEL	ASTM A320 GRD.L7	Var
22	LOCKING WASHER	MONEL 400		1
23	LOCKING WASHER	STAINLESS STEEL	ASTM 316	1
24	NAMEPLATE	STAINLESS STEEL	ASTM 316	1
25	BEARING CAGE	STEEL	PROPRIETARY	2
26	BEARING WASHER	STEEL	PROPRIETARY	4
27	BELLOWS	HASTELLOY	HASTELLOY C276 (N10276) (2.4819)	1
28	GASKET	GYLON 3510	PROPRIETARY	1
29	SPLIT WASHER	MONEL 400	ASTM B164 UNS N04400	1
30	SEAL (GLAND)	NITRILE		1
31	SEAL (STUFFING BOX)	NITRILE		1
	GLAND PACKING	PTFE	PROPRIETARY	Var

PRESSURE/TEMPERATURE RATING
THE ALLOWABLE PRESSURE/TEMPERATURE RATING IS GIVEN IN BS. EN. 1092-1 FOR PN FLANGED VALVES AND BS. EN. 1759-1 FOR CLASS FLANGED VALVE FOR THE APPROPRIATE BODY/BONNET MATERIAL.
ADDITIONAL TEMPERATURE LIMITS ARE STATED ON THE NAMEPLATE AND ARE IMPOSED FOR CHLORINE SERVICE I.E. 120°C MAXIMUM OR FOR REASONS OF MATERIAL SELECTION.

DESPATCH CONDITION:
EXTERNAL SURFACES UNLESS OTHERWISE SPECIFIED IN THE CONTRACT ARE ZINC PHOSPHATE PRIMED AND FINISHED IN EPOXY HIGH BUILD GLOSS.
EACH VALVE IS SOAKED IN DRY HEAT AT 130°C FOR 3 HOURS MIN.
VALVE PIPE FLANGES ARE BLANKED OFF WITH SILICA GEL DESICCANT SACHET ATTACHED TO END PLATES.

SIZE	80	100	150
B	512	522	699
C	212	226	295
D	212	229	302
E	22.5	40	64.5
W	350	350	500
APPROX. WT(Kg.)	61	85	185

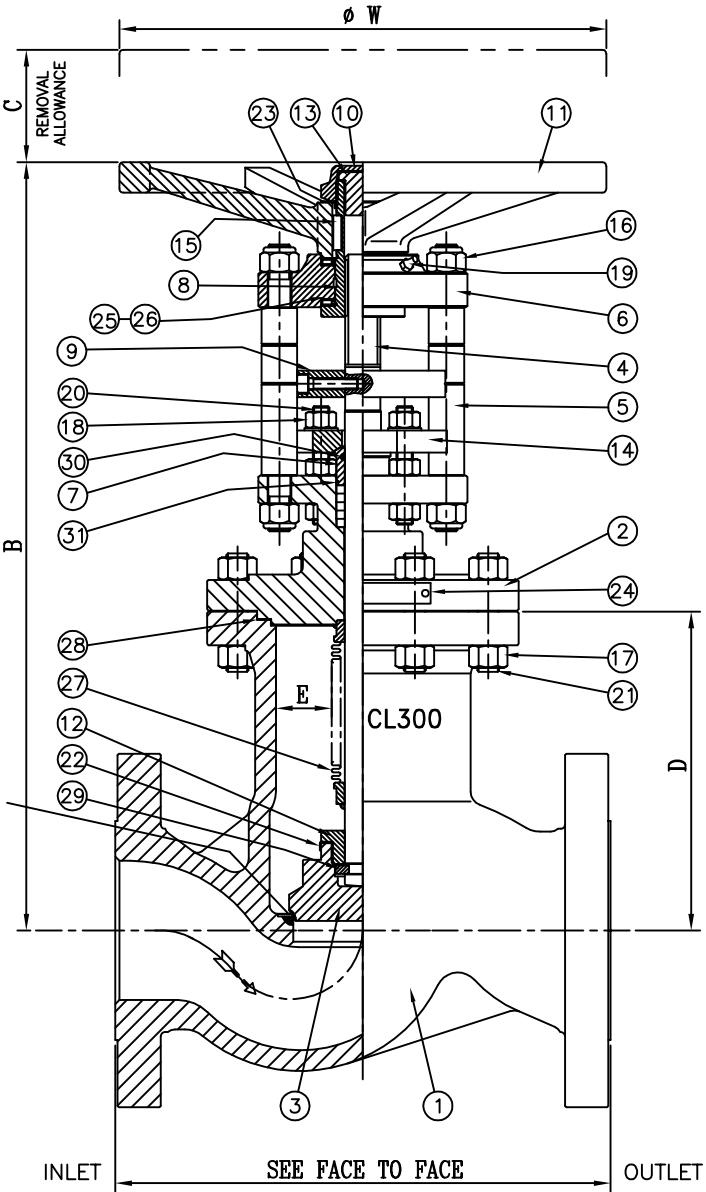
FACE TO FACE
THE FACE TO FACE DIMENSION FOR THE APPROPRIATE FIGURE NUMBER AND FLANGE IS GIVEN BELOW

FIG No	FLANGE	SIZE BS EN	80	100	150
LM6422EC	CLASS 300 RF	BASIC SERIES 21	318	356	444
LM6322EC	CLASS 300 RF	BASIC SERIES 4	283	305	403
LM6622EC	PN40 TYPE 'B1'	BASIC SERIES 1	310	350	480

FLANGES: THE DIMENSIONS OF THE FLANGES ARE GIVEN IN BS EN 1092-1 FOR PN FLANGED VALVES AND BS EN 1759-1 FOR CLASS FLANGED VALVES

DN80 & DN100 SIZES
DN150 SIZE ONLY

VALVE SEALING FACES
STELLITE 21



QUALITY APPROVALS
APPROVED TO ISO 9001:2015 BY LRQA
APPROVAL NUMBER: ISO 9001 - 0004073
STOOMWEZEN
EURO - CHLOR

DESIGN FEATURES
PRINCIPAL VALVE DESIGN FEATURES CONFORM TO THE REQUIREMENTS OF
EURO - CHLOR GEST 17/492 ED.2 2021
BELLWS PROOF CYCLE TESTED PER BS.5352
APPENDIX C
INTERNAL VALVE LUBRICANTS - CHLORINE COMPATIBLE

PRODUCTION TESTS
1. HYDRAULIC PRESSURE TEST OF BODY BONNET & BELLWS AT 1.5 x P_n
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
2. PNEUMATIC PRESSURE TEST OF ASSEMBLED VALVE USING NITROGEN (OXYGEN FREE) - BODY & SEAT AT 1.1 x P_n
ACCEPTANCE CRITERIA - NO VISIBLE LEAKAGE AFTER TWO MINUTES.
3. HELIUM LEAK TEST OF BELLWS UNIT AT 1ATM USING MASS SPECTROMETER.
ACCEPTANCE CRITERIA - MAXIMUM ALLOWABLE LEAKAGE RATE 10⁻⁶ CM³/S