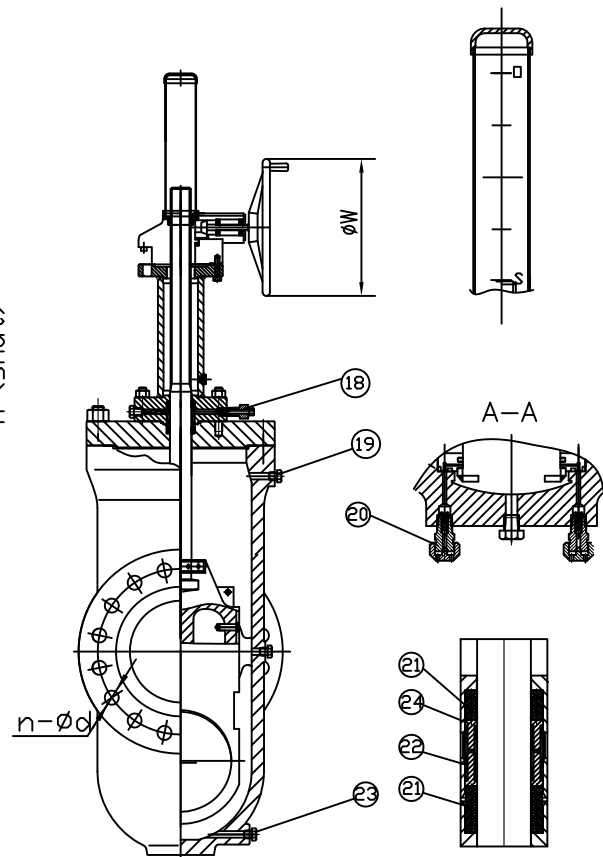
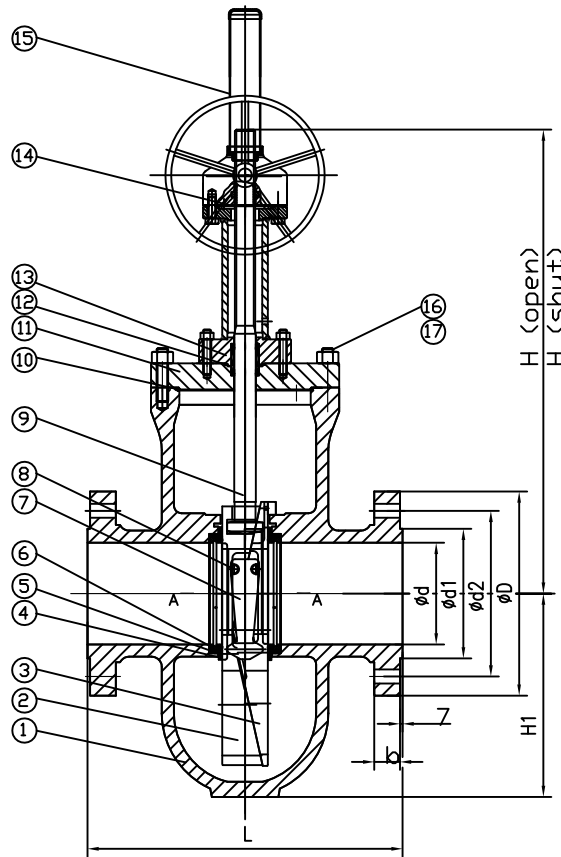
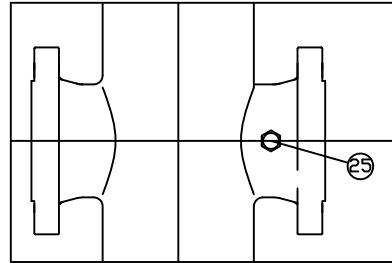


Wm. E. Williams No. 159F-61D GO Class 1500 RF Expanding Gate Valve ASTM A216 WCC NACE



NO.	PART NAME	MATERIAL	NOTE
1	BODY	A216-WCC	
2	MAJOR GATE	A515. GR.70 +ENP	
3	MINOR GATE ASSLY	A515. GR.70 +ENP	
4	GATE GUIDE	Q235-A+ENP	
5	Ø RING	Viton	
6	SEAT	A105N+ENP+DEVLON	
7	LEVER LOCK ARM	1025+ENP	
8	LEVER LOCK PIN	A276-410	
9	STEM	ASTM A182 F316	
10	RING JOINT GASKET	304SS	
11	BONNET	A105N	
12	GASKET	316SS+GRAPHITE	
13	YOKE TUBE ASSLY	A1020	
14	GEAR		
15	STEM PROTECT & INDICATION	PLASTIC	
16	BOLT	A193-B7M	
17	NUT	A194-2HM	
18	PACKING FITTING	A276 304	
19	VENT VALVE	A276 304	
20	INJECTION	A276 304	
21	PACKING RING	PTFE	
22	INJECTION PACKING	YP7603	
23	DRAIN	A276 304	
24	LANTERN RING	SS316	
25	PLUG	A276 304	

UNIT	NPS	φd	φd1	φd2	φD	b	n-φd	L	H (shut)	H (open)	H1	φW
mm	4"	100	157.2	241.3	310	54	8-φ35	546	666	787	230	310
Inch	4"	4.0	6.2	9.5	12.2	2.1	8-φ1.4	21.5	26.2	31.0	9.1	12.2
mm	6"	144	215.9	317.5	395	82.6	12-φ38	705	835	1015	333	460
Inch	6"	5.7	8.5	12.5	15.6	3.3	12-φ1.5	27.8	32.9	40.0	13.1	18.1



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TITLE: CAST STEEL EXPANDING GATE VALVE CLASS 1500 - ENP TRIM - GEAR OPERATED

MATERIAL: ASTM A216 GR.WCC	UNITS: Inch, mm
CLASS: 1500	DATE: 09/03/15
SIZE: 4" - 6"	SCALE: N.T.S.
DRAWN BY: F.J.	FIG. No.: 159F-61D GO
CHK'D & APR'D BY: R.P.	DWG No.: 60EG120460-28

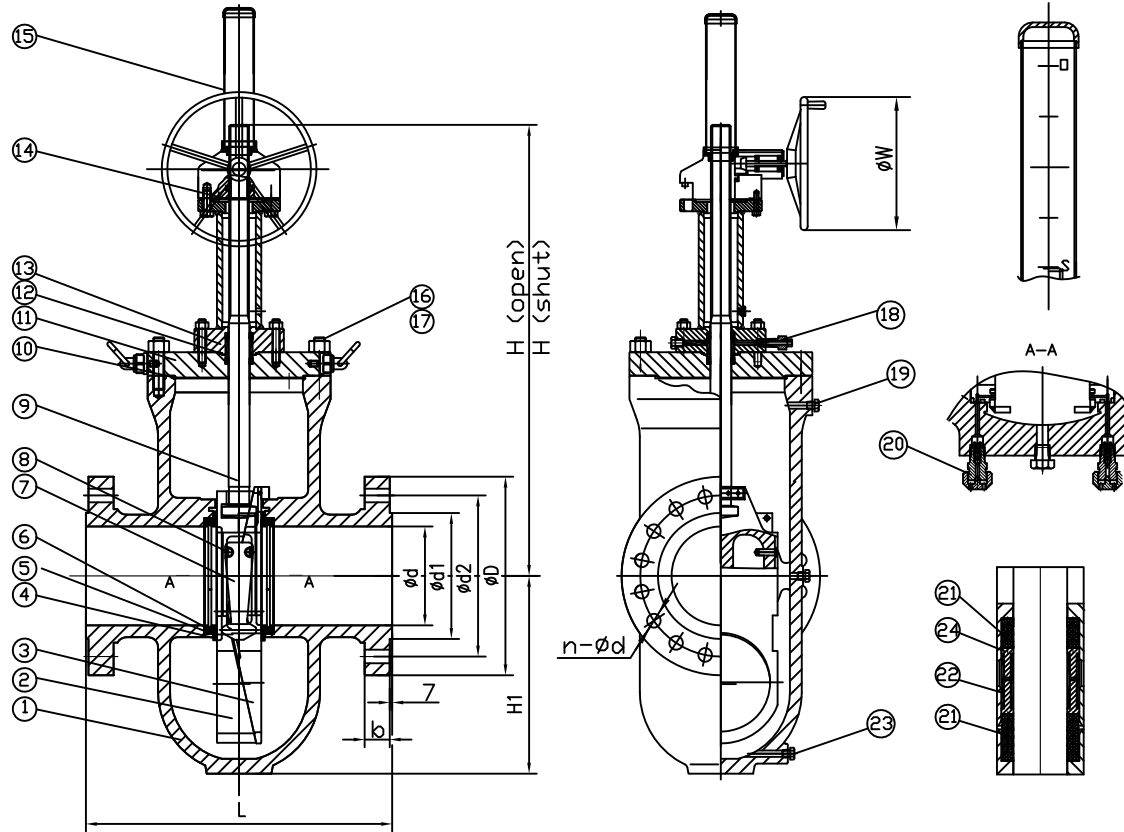
NO.	DATE	DESCRIPTION	PRP'D	REV'D	APP'D
Δ	2/16/16	RELEASED	F.J.	R.P.	R.P.
Δ	9/3/15	RELEASED	F.J.	R.P.	R.P.

MARKING SYSTEM	MSS-SP-25	INSPECTION & TEST: API 6D
DIM.OF FLANGE	ANSI B16.5	SHELL HYDRO 5598PSI
FACE TO FACE	API 6D	SEAT AIR 80PSI
DESIGNED	API 6D	BACK SEAT HYDRO 4100PSI
NACE MR 0175		

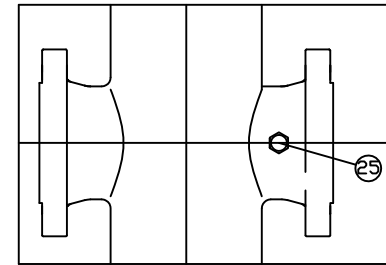
Wm. E. Williams No. 159F-61D GO Class 1500 RF Expanding Gate Valve ASTM A216 WCC NACE

BILL OF MATERIALS

NO.	PART NAME	MATERIAL	NOTE
1	BODY	A216-WCC	NACE
2	MAJOR GATE	A515, GR.70 +ENP	
3	MINOR GATE ASSLY	A515, GR.70 +ENP	
4	GATE GUIDE	Q235-A+ENP	
5	O RING	Viton	
6	SEAT	A105N+ENP+DEVLDN	
7	LEVER LOCK ARM	1025+ENP	
8	LEVER LOCK PIN	A276-410	
9	STEM	ASTM A182 F316	
10	RING JOINT GASKET	304SS	
11	BONNET	A105N	
12	GASKET	316SS+GRAPHITE	
13	YOKE TUBE ASSLY	A1020	
14	GEAR		
15	STEM PROTECT & INDICATION	PLASTIC	
16	BOLT	A193-B7M	
17	NUT	A194-2HM	
18	PACKING FITTING	A276 304	
19	VENT VALVE	A276 304	
20	INJECTION	A276 304	
21	PACKING RING	PTFE	
22	PARTICLE PACKING	YP7603	
23	DRAIN	A276 304	
24	LANTERN RING	SS316	
25	PLUG	A276 304	



Unit	NPS	φd	φd1	φd2	φD	b	n-φd	L	H (shut)	H (open)	H1	φW
mm	8"	192	269.9	393.7	483	92.1	12-φ44	832	981	1200	418	610
Inch	8"	7.6	10.6	15.5	19.0	3.6	12-φ1.73	32.8	38.6	47.2	16.5	24.0
mm	10"	239	323.8	482.6	584	108	12-φ51	991	1180	1452	508	610
Inch	10"	9.4	12.8	19.0	23.0	4.3	12-φ2.0	39.0	46.5	57.2	20.0	24.0
mm	12"	287	381	571.5	673	123.9	16-φ54	1130	1370	1695	605	800
Inch	12"	11.3	15.0	22.5	26.5	4.9	16-φ2.13	44.5	53.9	66.7	23.8	31.5

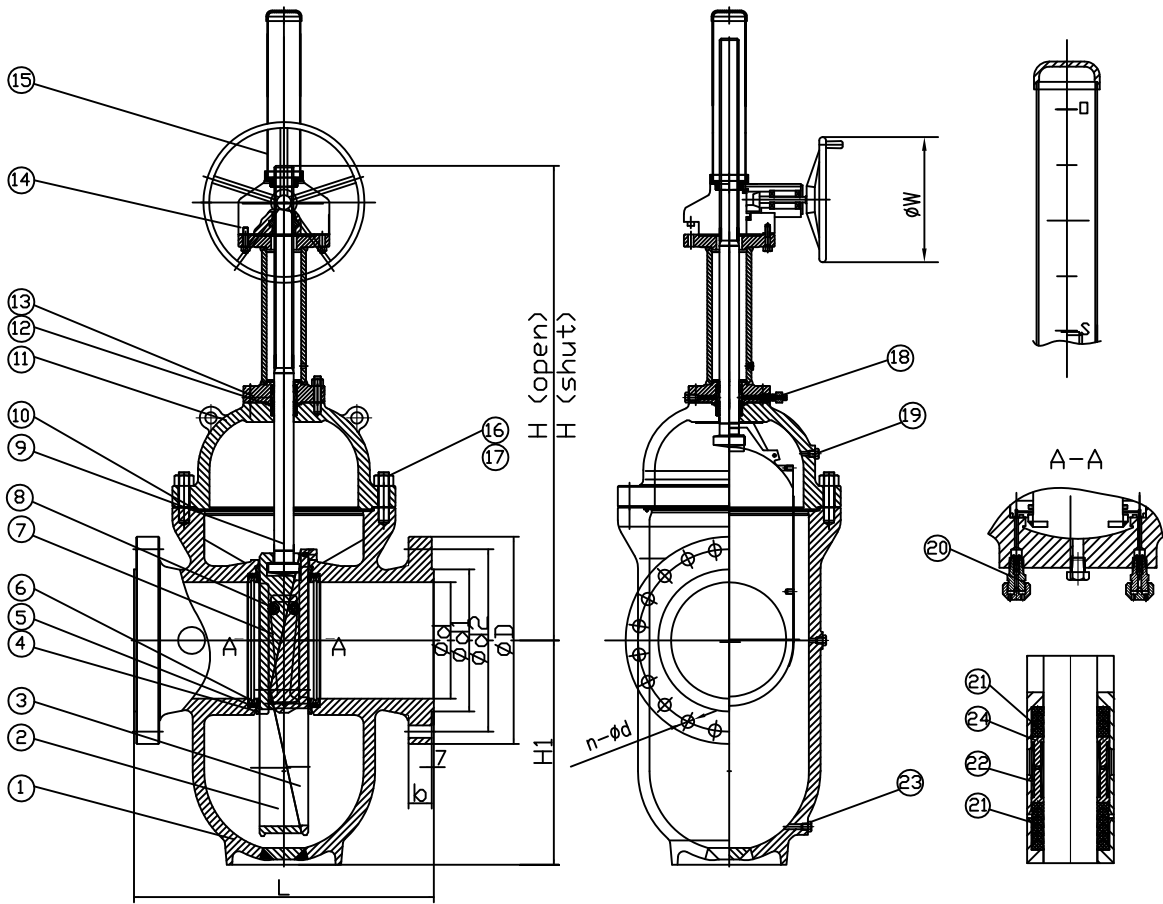



WILLIAMS
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TITLE: CAST STEEL EXPANDING GATE VALVE
CLASS 1500 - ENP TRIM - GEAR OPERATED

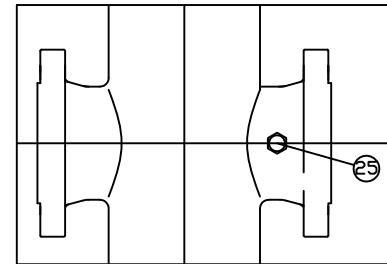
NO.	DATE	DESCRIPTION	PRP'D	REV'D	APP'D	MARKING SYSTEM	MSS-SP-25	INSPECTION & TEST: API 6D	MATERIAL: ASTM A216 GR.WCC	UNITS: Inch, mm	
Δ	2/16/16	RELEASED	F.J.	R.P.	R.P.	DIM.OF FLANGE	ANSI B16.5	SHELL HYDRO 5598PSI	CLASS: 1500	SCALE: N.T.S.	
Δ	9/3/15	RELEASED	F.J.	R.P.	R.P.	FACE TO FACE	API 6D	SEAT AIR 80PSI	SIZE: 8" - 12"	FIG. No.: 159F-61D GO	
Δ	9/3/15	RELEASED	F.J.	R.P.	R.P.	DESIGNED	API 6D	BACK SEAT HYDRO 4100PSI	DRAWN BY: F.J.		
NACE MR 0175									CHK'D & APR'D BY: R.P.	REV: 2	DWG No.: 60EG120460-812-28

Wm. E. Williams No. 159F-61D GO Class 1500 RF Expanding Gate Valve ASTM A216 WCC NACE



BILL OF MATERIALS			
NO.	PART NAME	MATERIAL	NOTE
1	BODY	A216-WCC	NACE
2	MAJOR GATE	A515. GR.70 +ENP	
3	MINOR GATE ASSLY	A515. GR.70 +ENP	
4	GATE GUIDE	Q235-A+ENP	
5	O RING	Viton	
6	SEAT	A105N+ENP+DEVLDN	
7	LEVER LOCK ARM	1025+ENP	
8	LEVER LOCK PIN	A276-410	
9	STEM	ASTM A182 F316	
10	RING JOINT GASKET	304SS	
11	BONNET	A105N	
12	GASKET	316SS+GRAPHITE	
13	YOKE TUBE ASSLY	A1020	
14	GEAR		
15	STEM PROTECT & INDICATION	PLASTIC	
16	BOLT	A193-B7M	
17	NUT	A194-2HM	
18	PACKING FITTING	A276 304	
19	VENT VALVE	A276 304	
20	INJECTION	A276 304	
21	PACKING RING	PTFE	
22	PARTICLE PACKING	YP7603	
23	DRAIN	A276 304	
24	LANTERN RING	SS316	
25	PLUG	A276 304	

UNIT	NPS	ϕd	$\phi d1$	$\phi d2$	ϕD	b	n- ϕd	L	H (shut)	H (open)	H1	ϕW
mm	14"	315	412.8	635	750	133.4	16- $\phi 60$	1257	1590	1920	885	710
Inch	14"	12.4	16.3	25.0	29.5	5.3	16- $\phi 2.4$	49.5	62.6	75.6	34.8	28.0
mm	16"	360	469.9	704.8	825	146.1	16- $\phi 67$	1384	1900	2300	910	710
Inch	16"	14.2	18.5	27.8	32.5	146.1	16- $\phi 5.8$	54.5	74.8	90.6	35.8	28.0
mm	18"	406	533.4	774.7	915	162	16- $\phi 73$	1537	2032	2512	841	810
Inch	18"	16.0	21.0	30.5	36.0	6.4	16- $\phi 2.9$	60.5	80.0	98.9	33.1	31.9
mm	20"	454	584.2	831.8	985	177.8	16- $\phi 79$	1664	2350	2832	1025	810
Inch	20"	17.9	23.0	32.8	38.8	7.0	16- $\phi 3.1$	65.5	92.5	111.5	40.4	31.9
mm	24"	546	692.2	990.6	1170	203.2	16- $\phi 92$	1943	2500	3216	1378	900
Inch	24"	21.5	27.3	39.0	46.1	8.0	16- $\phi 3.6$	76.5	98.4	126.6	54.3	35.4



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TITLE: CAST STEEL EXPANDING GATE VALVE CLASS 1500 - ENP TRIM - GEAR OPERATED

MARKING SYSTEM	MSS-SP-25	INSPECTION & TEST:	API 6D	MATERIAL:	ASTM A216 GR.WCC	UNITS:	Inch, mm				
DIM.OF FLANGE	ANSI B16.5	SHELL	HYDRO	5598PSI	CLASS:	1500	DATE:	09/03/15	SCALE:	N.T.S.	
FACE TO FACE	API 6D	SEAT	AIR	80PSI	SIZE:	14" - 24"	FIG. No.:	159F-61D GO			
DESIGNED	API 6D	BACK SEAT	HYDRO	4100PSI	DRAWN BY:	F.J.	CHK'D & APR'D BY:	R.P.	REV:	2	
NO.	DATE	DESCRIPTION	PRP'D	REV'D	APP'D	NACE MR 0175		DWG No.: 60EG120460-1424-28			