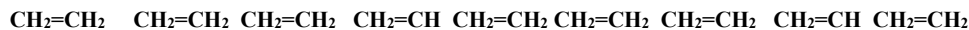


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Installation Dimensions

GARLOCK-Valve with LUG Body, Type 111 L-MT
complete with gear operator

Flange connection: ANSI B 16.5 - 150 lbs/sq. in.
Face to face dimension: DIN EN 558 GR20

PVC Arvand

PL 6-0-613 Rev. 03

UAN : 03-3039-020

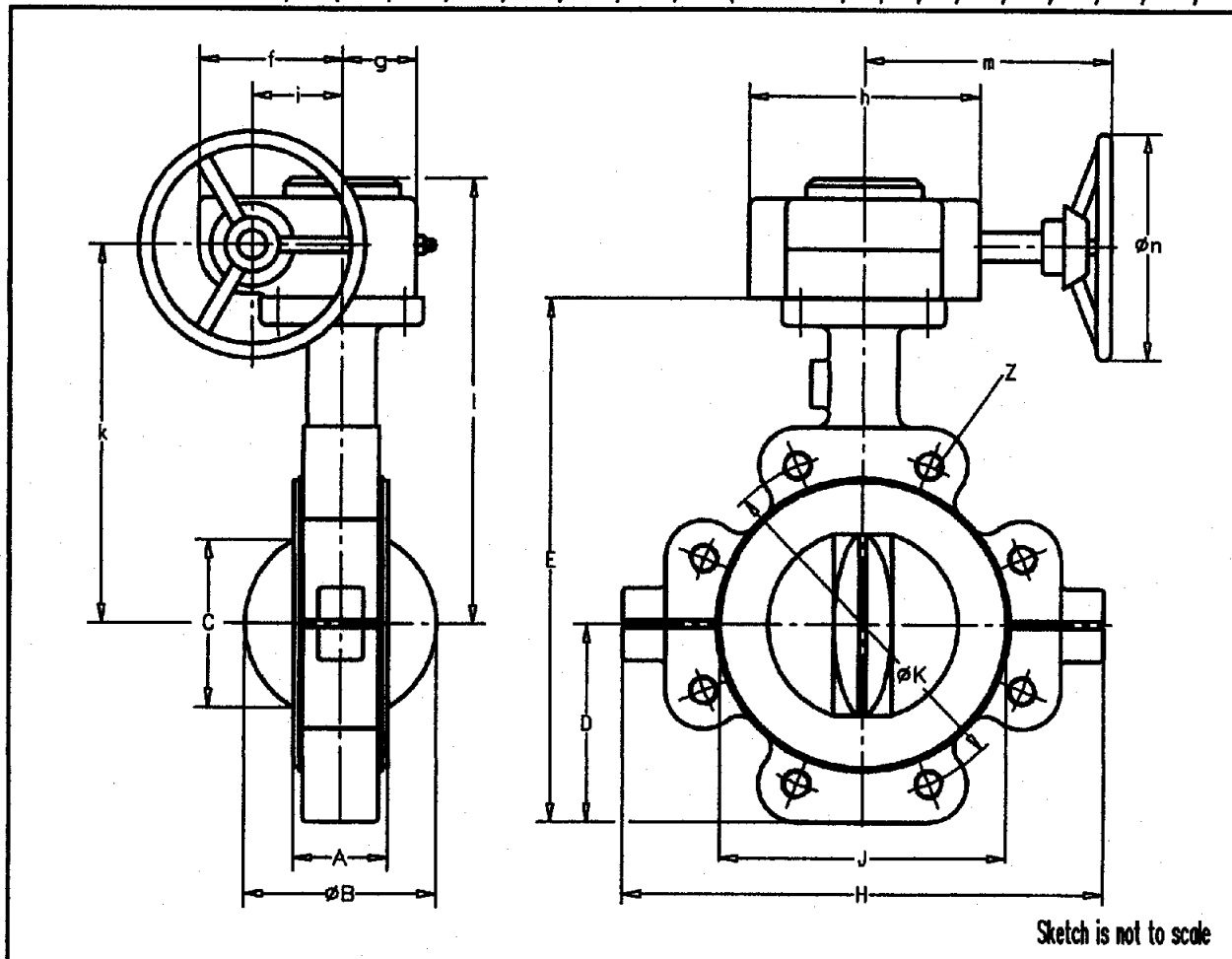
Req-No. : 8408205-CB-PI-REQ-0314

Order No. : 34039789/Zi ; 34043072/Zi ; 34044700/Zi

Position : 001 to 003 / 004 to 011 (acc. table)

Part No. : VRC254A / VUC254A (acc. table)

DN 80/100/150/200/250/300/350/400/500/600 3"/4"/6"/8"/10"/12"/14"/16"/20"/24"



Pos.	Part No.	Dimension A		B	C	D	E	H	J	ØK	Z	f	g	h	i	k	l	m	Øn	weight kg	
		Inch	mm																		
001	VRC254A	3	80	46	82	67	91	256	252	127	152	4x 5/8"-11 UNC	62	44	88	38,5	191,5	223	152	125	10,5
002	VRC254A	4	100	52	106	93	109	289	290	159	190	8x 5/8"-11 UNC	62	44	88	38,5	206,5	238	152	125	14,2
003	VRC254A	6	150	56	157	147	136	351	362	216	241	8x 3/4"-10 UNC	83,5	56	116	52,0	250,0	282	182	250	22,9
004	VUC254A	6	150	56	157	147	136	351	362	216	241	8x 3/4"-10 UNC	83,5	56	116	52,0	250,0	282	182	250	22,9
005	VUC254A	8	200	60	197	188	163	408	416	270	298	8x 3/4"-10 UNC	83,5	56	116	52,0	280,0	312	182	250	29,2
006	VUC254A	10	250	68	246	236	200	480	508	324	362	12x 7/8"- 9 UNC	105	75	150	66,7	322,0	361	216	300	47,9
007	VUC254A	12	300	78	295	284	233	553	575	375	432	12x 7/8"- 9 UNC	105	75	150	66,7	362,0	401	216	300	63,5
008	VUC254A	14	350	92	335	322	265	640	640	413	476	12x 1"- 8 UNC	131	96	198	89,5	370,0	413	283	450	120,0
009	VUC254A	16	400	102	387	374	305	725	720	470	540	16x 1"- 8 UNC	131	96	198	89,5	425,0	468	283	450	149,2
010	VUC254A	20	500	127	484	467	370	880	830	584	635	20x 1 1/4"- 8 UN	178	118	252	123,0	560,0	616	335	450	274,8
011	VUC254A	24	600	154	578	558	415	990	960	692	749	20x 1 1/4"- 8 UN	209	145	315	154,0	625,0	702	360	450	427,7

* DIN EN 558 GR25

Garlock GmbH

P.O. Box 210464, D-41430 Neuss - Falkenweg 1, D-41468 Neuss - Tel.: +49 (0) 2131/349-0 - Fax: +49 (0) 2131/349-222

e-mail: garlockgmbh@garlock.com // http://www.garlock.eu.com

We reserve the right to change specifications

Part List

GARLOCK-Valve components and used materials

PVC Arvand

PL 6-0-615 Rev. 01

UAN : 03-3039-020

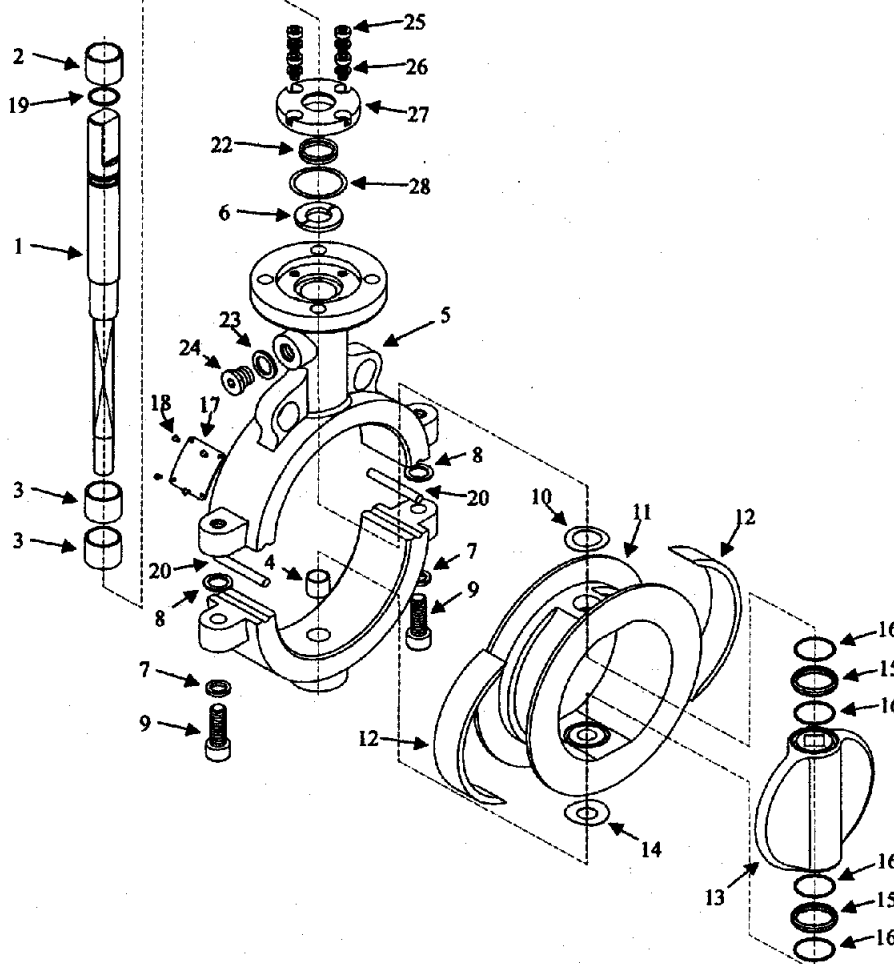
Req-No. : 8408205-CB-PI-REQ-0314

Order No. : 34039789/Zi, 34039792/Zi, 34043072/Zi, 34044700/Zi

Position : miscellaneous

Part No. : miscellaneous

Explosion



Pos	Item	Material	Pos	Item	Material
1	Shaft (one piece)	stainless steel	15	Disc seal ring	PTFE
2	Upper shaft bearing	PTFE, steel	16	O-Ring	Viton
3	Middle shaft bearing	PTFE, steel	17	Type plate	stainless steel
4	Lower shaft bearing	PTFE, steel	18	Taper pin	stainless steel
5	(Split) body	ASTM A395	19	O-Ring	Viton
6	Fixing ring	PTFE	20	Sealing rod	PTFE
7	Spring washer	stainless steel	21		
8	Spacer	PTFE	22	O-Ring	Viton
9	Body bolt	stainless steel (A2)	23	Gasket*	not requested
10	Gasket (upper part)	PTFE	24	Plug*	not requested
11	Body liner	PTFE	25	Screw	stainless steel
12	Elastomer	Viton	26	Spring washer	stainless steel
13	Disc	stainless steel / PTFE	27	Top flange	stainless steel
14	Gasket (bottom part)	PTFE	28	Gasket	PTFE

Garlock GmbH

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   SAZEH CONSULTANTS	PVC Arvand Complex	 <i>National Petrochemical company</i> Arvand Petrochemical Company
Uhde Project No: 03-3039 Job Code: PVC Arvand	Sazeh Project No: 8047 Job Code:	Owner Project No: 8408205 Owner Job Code: PVC Arvand

MECHANICAL CATALOGUE

Technical Documentation

Item: see chapter 1

Description: Butterfly valves, lined

References

Uhde order no.: 34039789, 34039792, 34043072, 34044700
34045607

Client requisition no.: 8408205-CB-PI-REQ-0314

Uhde's Project Code: 03-3039 / PVC ARVAND

Vendor's name: Garlock GmbH
Neuss
Germany

Vendor's reference V-5.142879, V-5.148567, V-5.152447,
V-6.154916

  Uhde مهندسان مشاوران SAZEH CONSULTANTS	PVC Arvand Complex	 <i>National Petrochemical company</i> Arvand Petrochemical Company
Uhde Project No: 03-3039	Sazeh Project No: 8047	Owner Project No: 8408205
Job Code: PVC Arvand	Job Code:	Owner Job Code: PVC Arvand

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Technical Documentation

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Chapter	Description
1	Part list per requisition
2	Drawings, catalogues
3	Operating and maintenance instructions (manuals)
4	Installation instruction
5	Inspection documents

8408205-CB-PI-VDP-0314-0000



02 03-3039-10436759

P 000 R00

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  Uhde  مهندسان مشاوره SAZEH CONSULTANTS	PVC Arvand Complex	 <i>National Petrochemical company</i> Arvand Petrochemical Company
Uhde Project No: 03-3039 Job Code: PVC Arvand	Sazeh Project No: 8047 Job Code:	Owner Project No: 8408205 Owner Job Code: PVC Arvand

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Uhde

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Date: 07.06.2005

Vendor's Documents

03-3039 Arvand, PVC-Anlage, Iran
34039789/01 Butterfly Valves, lined

8408205-CB-PI-REQ-0314

30498 GARLOCK GMBH
039R614

Item	Part-No	Text Dimensions	Quantity	Weight per Unit	Documentation
00001	VRC254A	REGULATING VALVE CL150 3"	5 PC	40 KG	01.04.2005
00002	VRC254A	REGULATING VALVE CL150 4"	43 PC	56 KG	01.04.2005
00003	VUC253A	BUTTERFLY VALVE, CENTRIC, LEVER 4"	110 PC	3,800 KG	01.04.2005
00004	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 6"	133 PC	7,500 KG	01.04.2005
00005	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 8"	64 PC	14 KG	01.04.2005
00006	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 10"	40 PC	22 KG	01.04.2005
00007	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 12"	40 PC	34,500 KG	01.04.2005
00008	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 14"	16 PC	44,200 KG	01.04.2005
00009	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 16"	18 PC	68 KG	01.04.2005
00010	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 20"	4 PC	111 KG	01.04.2005
00011	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 24"	1 PC	0,100 KG	01.04.2005



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Page: 1
Date: 07.06.2005

Vendor's Documents

03-3039 Arvand, PVC-Anlage, Iran
34039792/02 Butterfly valves "VUC255A"

8408205-CB-PI-REQ-0314

30498 GARLOCK GMBH
039R633

Item	Part-No	Text Dimensions	Quantity	Weight per Unit	Documentation
00001	41VU0811101	41VU0811101 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00002	41VU0811102	41VU0811102 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00003	41VU0811201	41VU0811201 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00004	41VU0811202	41VU0811202 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00005	41VU0811301	41VU0811301 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00006	41VU0811302	41VU0811302 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00007	41VU0811401	41VU0811401 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00008	41VU0811402	41VU0811402 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00009	41VU0811501	41VU0811501 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00010	41VU0811502	41VU0811502 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00011	41VU0811601	41VU0811601 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00012	41VU0811602	41VU0811602 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00013	41VU0811701	41VU0811701 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00014	41VU0811702	41VU0811702 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00015	41VU0811801	41VU0811801 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005

Vendor's Documents

03-3039
34039792/02
8408205-CB-PI-REQ-0314
30498

Arvand, PVC-Anlage, Iran
Butterfly valves "VUC255A"

GARLOCK GMBH
039R633

Item	Part-No	Text Dimensions	Quantity	Weight per Unit	Documentation
00016	41VU0811802	41VU0811802 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00017	41VU0811901	41VU0811901 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00018	41VU0811902	41VU0811902 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00019	41VU0812001	41VU0812001 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00020	41VU0812002	41VU0812002 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00021	41VU0812101	41VU0812101 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00022	41VU0812102	41VU0812102 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00023	41VU0812201	41VU0812201 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00024	41VU0812202	41VU0812202 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00025	41VU0821101	41VU0821101 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00026	41VU0821102	41VU0821102 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00027	41VU0821201	41VU0821201 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00028	41VU0821202	41VU0821202 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00029	41VU0821301	41VU0821301 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00030	41VU0821302	41VU0821302 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005



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Date: 07.06.2005

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03-3039

34039792/02

8408205-CB-PI-REQ-0314

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Arvand, PVC-Anlage, Iran
Butterfly valves "VUC255A"

GARLOCK GMBH
039R633

Item	Part-No	Text Dimensions	Quantity	Weight per Unit	Documentation
00031	41VU0821401	41VU0821401 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00032	41VU0821402	41VU0821402 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00033	41VU0821501	41VU0821501 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00034	41VU0821502	41VU0821502 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00035	41VU0821601	41VU0821601 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00036	41VU0821602	41VU0821602 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00037	41VU0821701	41VU0821701 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00038	41VU0821702	41VU0821702 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00039	41VU0821801	41VU0821801 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00040	41VU0821802	41VU0821802 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00041	41VU0821901	41VU0821901 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00042	41VU0821902	41VU0821902 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00043	41VU0822001	41VU0822001 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00044	41VU0822002	41VU0822002 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00045	41VU0822101	41VU0822101 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005



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Date: 07.06.2005

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03-3039 Arvand, PVC-Anlage, Iran
34039792/02 Butterfly valves "VUC255A"

8408205-CB-PI-REQ-0314

30498 GARLOCK GMBH
039R633

Item	Part-No	Text	Quantity	Weight per Unit	Documentation
Dimensions					
00046	41VU08222102	41VU08222102 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00047	41VU08222201	41VU08222201 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005
00048	41VU08222202	41VU08222202 BUTTERFL. (VUC255A) 16"	1 PC	196,800 KG	01.04.2005



Uhde

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Date: 12.10.2005

Vendor's Documents
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34043072/01
8408205-CB-PI-REQ-0314
30498
Arvand, PVC-Anlage, Iran
Added stem extension in Pos. 9
GARLOCK GMBH
039R614A

Item	Part-No	Text Dimensions	Quantity	Weight per Unit	Documentation
00001	40VU6000105	BUTTERF. V. CENT. GEAR (VUC254A) 6"	1 PC	7,500 KG	16.12.2005
00002	VRC254A	REGULATING VALVE, CL150, GEAR 3"	1 PC	40 KG	16.12.2005
00003	VRC254A	REGULATING VALVE, CL150, GEAR 4"	5 PC	56 KG	16.12.2005
00004	VUC253A	BUTTERFLY VALVE, CENTRIC, LEVER 4"	19 PC	3,800 KG	16.12.2005
00005	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 6"	19 PC	7,500 KG	16.12.2005
00006	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 10"	3 PC	22 KG	16.12.2005
00007	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 12"	2 PC	34,500 KG	16.12.2005
00008	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 16"	3 PC	68 KG	16.12.2005
00009	VUC256A	BUTTERFLY VALVE, CENTRIC, GEAR 6"	48 PC	19,100 KG	16.12.2005

03-3039 Arvand, PVC-Anlage, Iran
34044700 2. Supplement to 039R614
8408205-CB-PI-REQ-0314
30498 GARLOCK GMBH
039R614B

Item	Part-No	Text Dimensions	Quantity	Weight per Unit	Documentation
00001	VRC254A	REGULATING VALVE, CL150, GEAR 3"	2 PC	40 KG	02.12.2006
00002	VRC254A	REGULATING VALVE, CL150, GEAR 4"	1 PC	56 KG	02.12.2006
00003	VRC254A	REGULATING VALVE, CL150, GEAR 6"	2 PC	108 KG	02.12.2006
00004	VUC253A	BUTTERFLY VALVE, CENTRIC, LEVER 4"	1 PC	3,800 KG	02.12.2006
00005	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 6"	8 PC	7,500 KG	02.12.2006
00006	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 10"	2 PC	22 KG	02.12.2006
00007	VUC254A	BUTTERFLY VALVE, CENTRIC, GEAR 16"	6 PC	68 KG	02.12.2006
00008	VUC256A	BUTTERFLY VALVE, CENTRIC, GEAR 6"	1 PC	19,100 KG	02.12.2006



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Date: 23.03.2006

03-3039 Arvand, FVC-Anlage, Iran

34045607 3. Supplement to 039R614

8408205-CB-PI-REQ-0314

30498 GARLOCK GMBH

039R614C

Item	Part-No	Text Dimensions	Quantity	Weight per Unit	Documentation
00001	41VU3800101	41VU3800101 BUTTERFL. (VUC253A) 4"	1 PC	3,800 KG	16.06.2006
00002	41VU3800102	41VU3800102 BUTTERFL. (VUC253A) 4"	1 PC	3,800 KG	16.06.2006
00003	VRC254A	REGULATING VALVE, CL150, GEAR 4"	2 PC	56 KG	16.06.2006

  مهندسان مشاور سازه SAZEH CONSULTANTS	PVC Arvand Complex	 National Petrochemical company Arvand Petrochemical Company
Uhde Project No: 03-3039	Sazeh Project No: 8047	Owner Project No: 8408205
Job Code: PVC Arvand	Job Code:	Owner Job Code: PVC Arvand

MECHANICAL CATALOGUE

Technical Documentation

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Installation Dimensions

GARLOCK-Valve with LUG Body, Type 111 L-MT
complete with hand lever

Flange connection: ANSI B 16.5 - 150 lbs/sq. in.
Face to face dimension: DIN EN 558 GR20

PVC Arvand

PL 6-0-612 Rev. 01

UAN : 03-3039-020

Req-No. : 8408205-CB-PI-REQ-0314

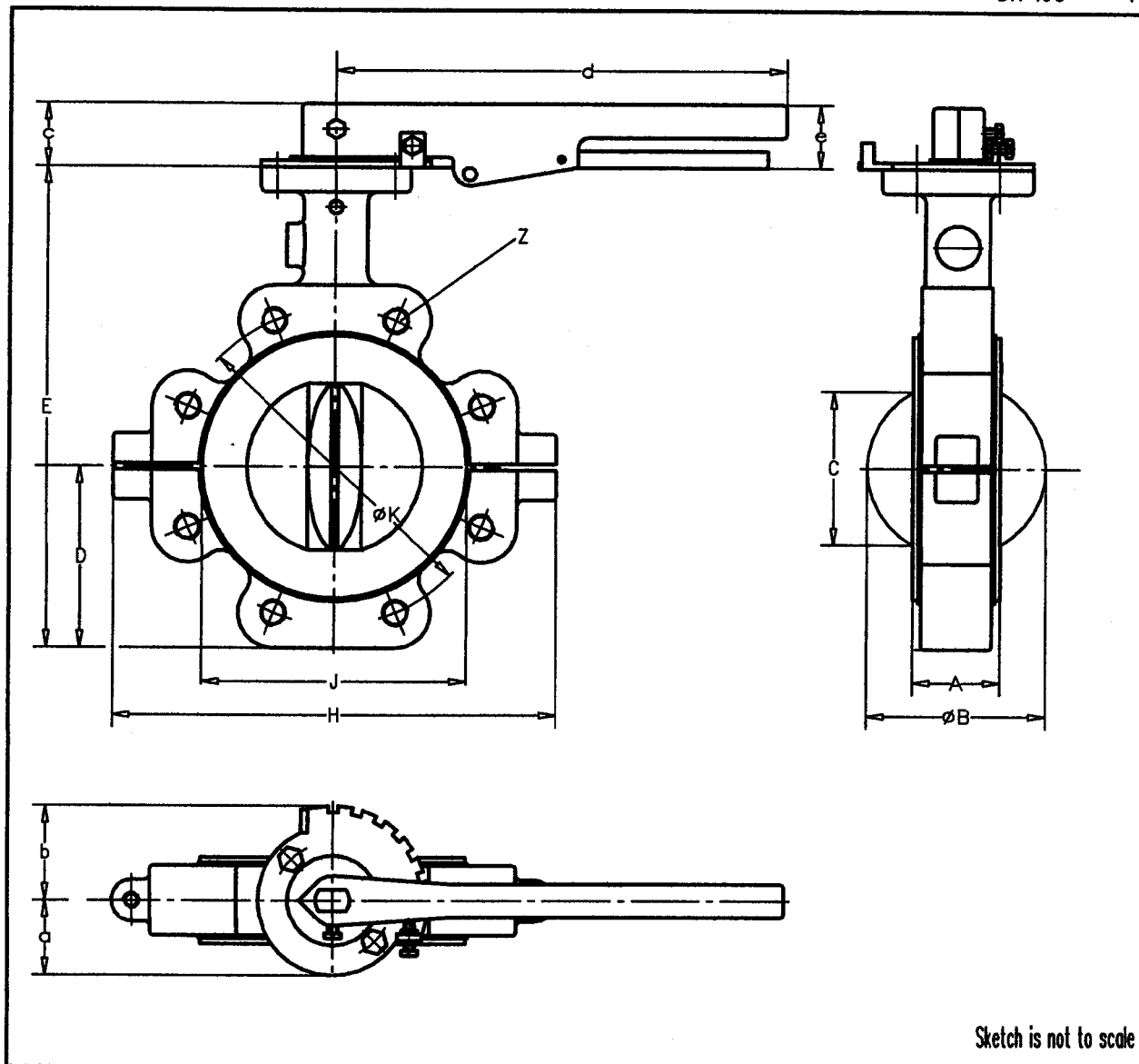
Order No. : 34039789/Zi ; 34043072/Zi; 34044700/Zi

Position : 003 (acc. table)

Part No. : VUC253A (acc. table)

DN 100

4°



Pos.	Part No.	Dimension		A	B	C	D	E	H	J	ØK	Z	a	b	c	d	e	weight	
		Inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	pcs.	thread					kg	
003	VUC253A	4	100	52	106	93	109	289	290	159	190	8x ⁵ / ₈ "	-11 UNC	45,0	57	38	300	38	11,7

Installation Dimensions

GARLOCK-Valve with LUG Body, Type 111 L-MT
complete with stem extension, gear operator

Flange connection: ANSI B 16.5 - 150 lbs/sq. in.
Face to face dimension: DIN EN 558 GR20

PVC Arvand

PL 6-0-618 Rev. 01

UAN : 03-3039-020

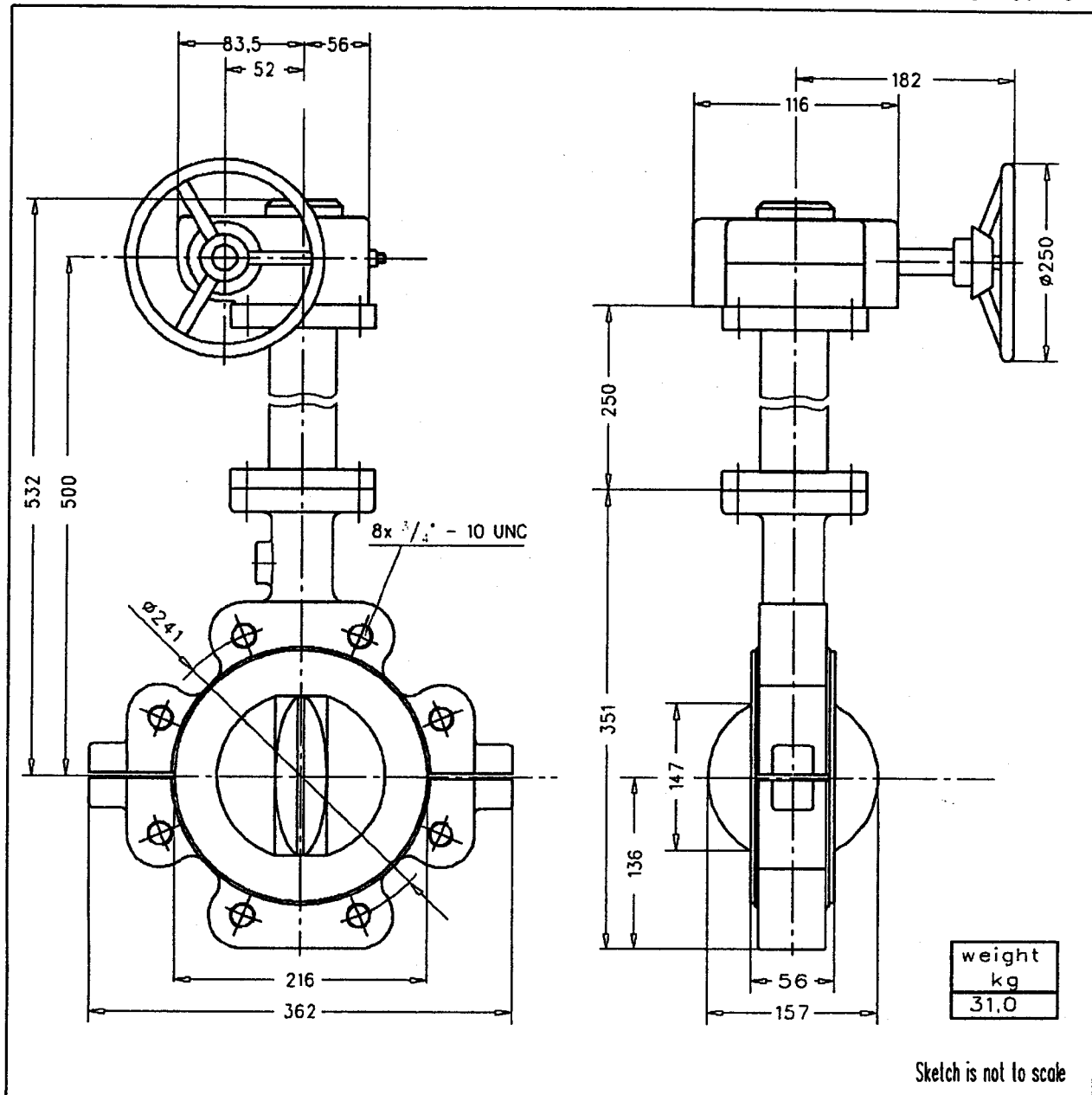
Req-No. : 8408205-CB-PI-REQ-0314

Order No. : 34043072/Zi

Position : 009

Part No. : VUC256A

DN 150 6"



Installation Dimensions

GARLOCK-Valve with LUG Body, Type 111 L-MT
complete with gear operator

Flange connection: ANSI B 16.5 - 150 lbs/sq. in.
Face to face dimension: DIN EN 558 GR20

PVC Arvand

PL 6-0-613 Rev. 03

UAN : 03-3039-020

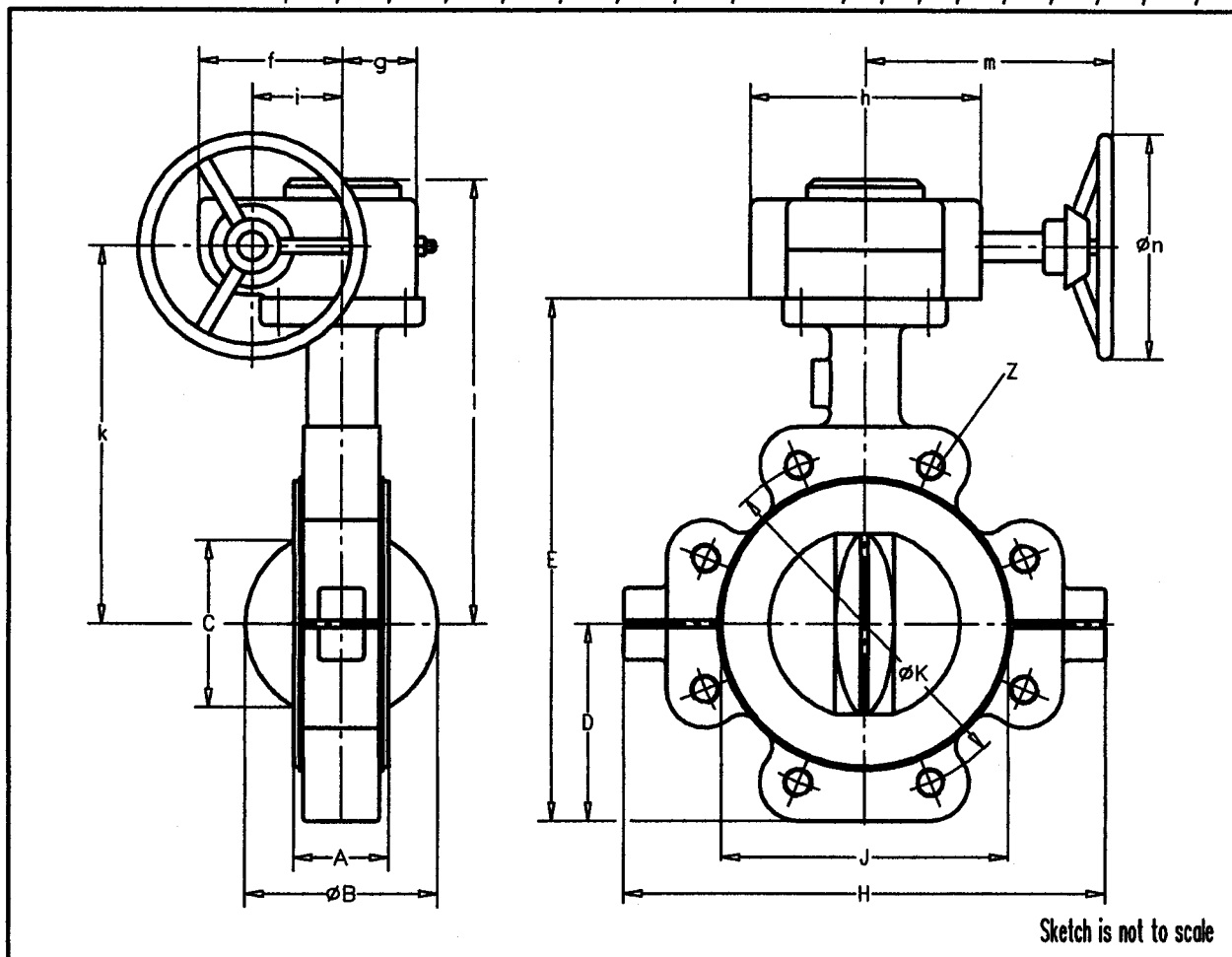
Req-No. : 8408205-CB-PI-REQ-0314

Order No. : 34039789/Zi ; 34043072/Zi ; 34044700/Zi

Position : 001 to 003 / 004 to 011 (acc. table)

Part No. : VRC254A / VUC254A (acc. table)

DN 80/100/150/200/250/300/350/400/500/600 3°/4°/6°/8°/10°/12°/14°/16°/20°/24°



Pos.	Part No.	Dimension A		B	C	D	E	H	J	ØK	Z	f	g	h	i	k	l	m	Øn	weight	
		Inch	mm																		mm
001	VRC254A	3	80	46	82	67	91	256	252	127	152	4x 5/8"-11 UNC	62	44	88	38,5	191,5	223	152	125	10,5
002	VRC254A	4	100	52	106	93	109	289	290	159	190	8x 5/8"-11 UNC	62	44	88	38,5	206,5	238	152	125	14,2
003	VRC254A	6	150	56	157	147	136	351	362	216	241	8x 3/4"-10 UNC	83,5	56	116	52,0	250,0	282	182	250	22,9
004	VUC254A	6	150	56	157	147	136	351	362	216	241	8x 3/4"-10 UNC	83,5	56	116	52,0	250,0	282	182	250	22,9
005	VUC254A	8	200	60	197	188	163	408	416	270	298	8x 3/4"-10 UNC	83,5	56	116	52,0	280,0	312	182	250	29,2
006	VUC254A	10	250	68	246	236	200	480	508	324	362	12x 7/8"- 9 UNC	105	75	150	66,7	322,0	361	216	300	47,9
007	VUC254A	12	300	78	295	284	233	553	575	375	432	12x 7/8"- 9 UNC	105	75	150	66,7	362,0	401	216	300	63,5
008	VUC254A	14	350	92*	335	322	265	640	640	413	476	16x 1"- 8 UNC	131	96	198	89,5	370,0	413	283	450	120,0
009	VUC254A	16	400	102	387	374	305	725	720	470	540	16x 1"- 8 UNC	131	96	198	89,5	425,0	468	283	450	149,2
010	VUC254A	20	500	127	484	467	370	880	830	584	635	20x 1 1/8"- 8 UN	178	118	252	123,0	560,0	616	335	450	274,8
011	VUC254A	24	600	154	578	558	415	990	960	692	749	20x 1 1/4"- 8 UN	209	145	315	154,0	625,0	702	360	450	427,7

* DIN EN 558 GR25

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Installation Dimensions

GARLOCK-Valve with LUG Body, Type 111 L-MT
complete with stem extension, gear operator
and limit switch control type P+F SJ3,5-S1N
Flange connection: ANSI B 16.5 - 150 lbs/sq. in.
Face to face dimension: DIN EN 558 GR20

PVC Arvand

PL 6-0-614 Rev. 02

UAN : 03-3039-020

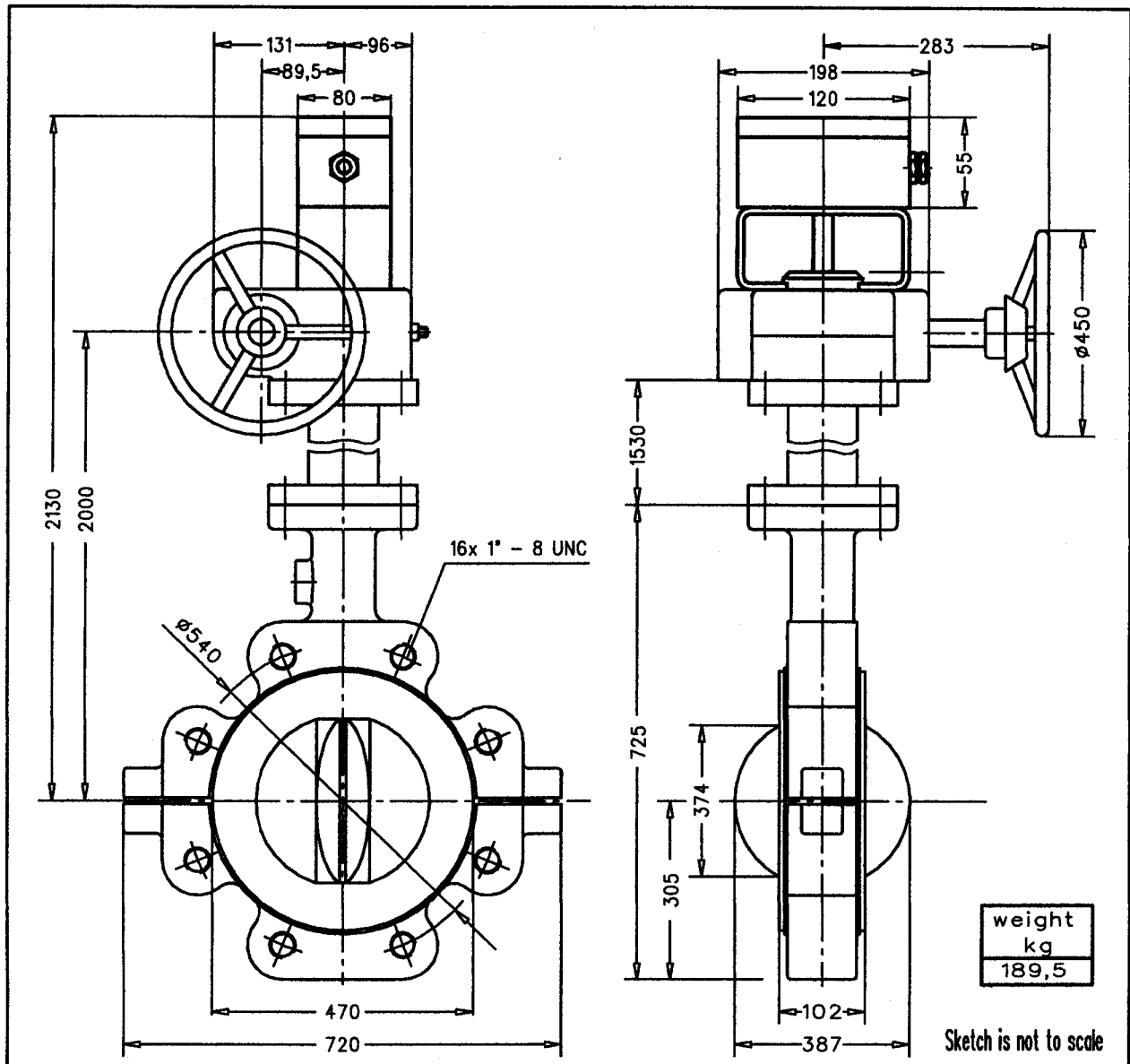
Req.No. : 8408205-CB-PI-REQ-0314

Order No. : 34039792/ZI

Position : 001 to 048 (acc. table)

Part No. : 41VU08.. (acc. table)

DN 400 16"



Pos.	Part No.	Pos.	Part No.	Pos.	Part No.	Pos.	Part No.	Pos.	Part No.	Pos.	Part No.
001	41VU081101	009	41VU0811501	017	41VU0811901	025	41VU082101	033	41VU0821501	041	41VU0821901
002	41VU081102	010	41VU0811502	018	41VU0811902	026	41VU082102	034	41VU0821502	042	41VU0821902
003	41VU0811201	011	41VU0811601	019	41VU0812001	027	41VU0821201	035	41VU0821601	043	41VU0822001
004	41VU0811202	012	41VU0811602	020	41VU0812002	028	41VU0821202	036	41VU0821602	044	41VU0822002
005	41VU0811301	013	41VU0811701	021	41VU0812101	029	41VU0821301	037	41VU0821701	045	41VU0822101
006	41VU0811302	014	41VU0811702	022	41VU0812102	030	41VU0821302	038	41VU0821702	046	41VU0822102
007	41VU0811401	015	41VU0811801	023	41VU0812201	031	41VU0821401	039	41VU0821801	047	41VU0822201
008	41VU0811402	016	41VU0811802	024	41VU0812202	032	41VU0821402	040	41VU0821802	048	41VU0822202

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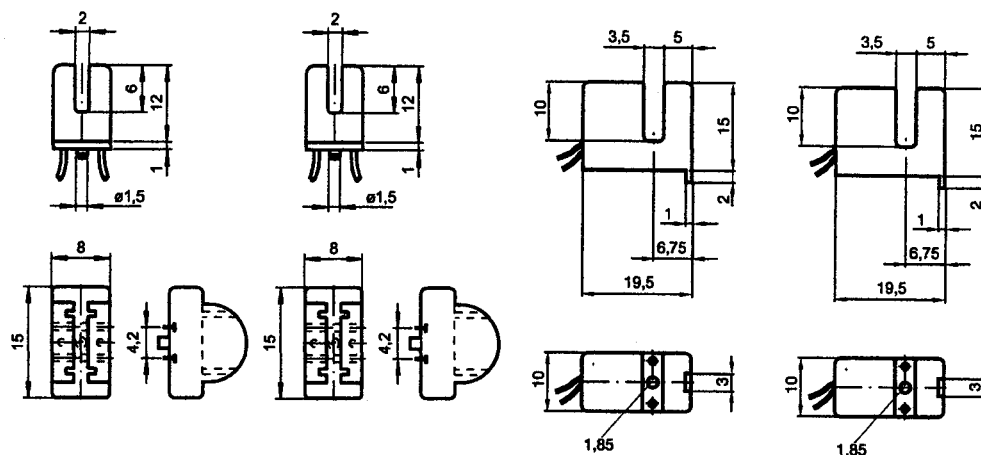
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Slot Type

Comfort series
2 mm slot width
3.5 mm slot width

Safety function

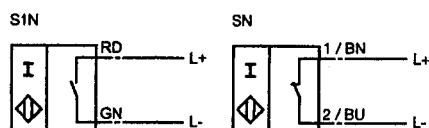
2-wire



CE

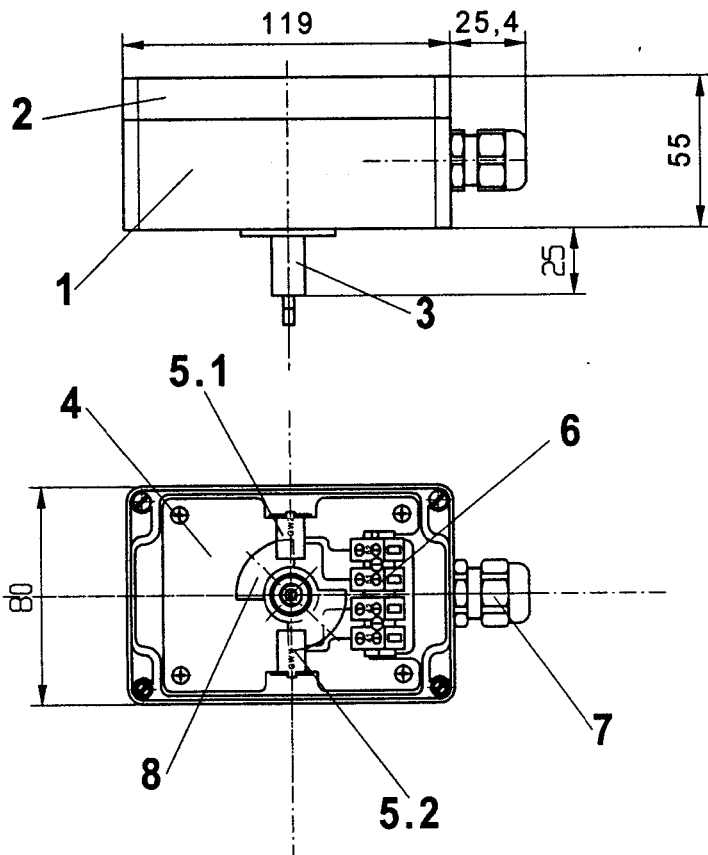
Slot width	2 mm	2 mm	3,5 mm	3,5 mm
Installation				
NAMUR NC	SJ2-SN		SJ3,5-SN	
NAMUR NO		SJ2-S1N		SJ3,5-S1N
Depth of immersion (lateral)	5 ... 7 mm	5 ... 7 mm	5 ... 7 mm	5 ... 7 mm
Nominal voltage U_0	8 V	8 V	8 V	8 V
Current consumption				
Measuring plate detected	1 mA	5 mA	1 mA	3 mA
Measuring plate not detected	3 mA	0,4 mA	3 mA	1 mA
Switching frequency f	5000 Hz	5000 Hz	3000 Hz	2500 Hz
EMC in accordance with	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Standard conformity	DIN EN 60947-5-6	DIN EN 60947-5-6	DIN EN 60947-5-6	DIN EN 60947-5-6
Effective internal capacitance C_i	60 nF	60 nF	60 nF	60 nF
Effective internal inductance L_i	100 μ H	100 μ H	100 μ H	100 μ H
Ambient temperature	-40 ... 100 °C	-25 ... 100 °C	-40 ... 100 °C	-25 ... 100 °C
Protection degree	IP67	IP67	IP67	IP67
Connection type	0,5 m, leads LIFYW	0,5 m, leads LIFYW	0,5 m, leads LIY	0,5 m, leads LIY
Core cross-section	0,06 mm ²	0,06 mm ²	0,14 mm ²	0,14 mm ²
Housing material	PBT	PBT	PBT	PBT
Note	adjustable stop	only for Ne-metal Adjustable stop	adjustable stop	only for Ne-metal Adjustable stop

Connection:

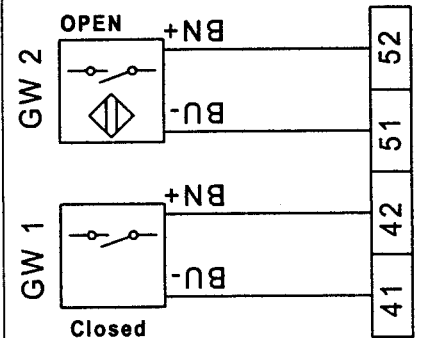


08.11.2000 S1 S1-induktiv-d.lfm

Vestamidbox with Proximity Sensors P&F, SJ 3,5-S1N



Terminal connection:
SJ3,5-S1N



Pos.	Designation
1	Plastic-housing, Mat. Vestamid, Type M215
2	Cover, Mat. Vestamid
3	Pinion, Mat. Stainl.- Stl.
4	Back-Plate, Mat. Stainl.-Stl.
5.1	Proximity Sensor, Type P+F, SJ 3,5-S1N
5.2	Proximity Sensor, Type P+F, SJ 3,5-S1N
6	Terminal Strip, Mat. Plastic (blue)
7	Cable Gland, Mat. Plastic (blue), M 20 X 1,5
8	Cam Switch, Mat. Aluminium

Technische Änderungen vorbehalten

VALVE AUTOMATION
SYSTEMS

EL-O-MATIC
INTERNATIONAL

Nr.
SJ 3,5-S1N

Alle Rechte vorbehalten

Date:
Dez. 05

Installation Dimensions

GARLOCK-Valve with LUG Body, Type 111 L-MT
complete with stem extension, gear operator

Flange connection: ANSI B 16.5 - 150 lbs/sq. in.

Face to face dimension: DIN EN 558 GR20

PVC Arvand

PL 6-0-617 Rev.01

UAN : 03-3039-020

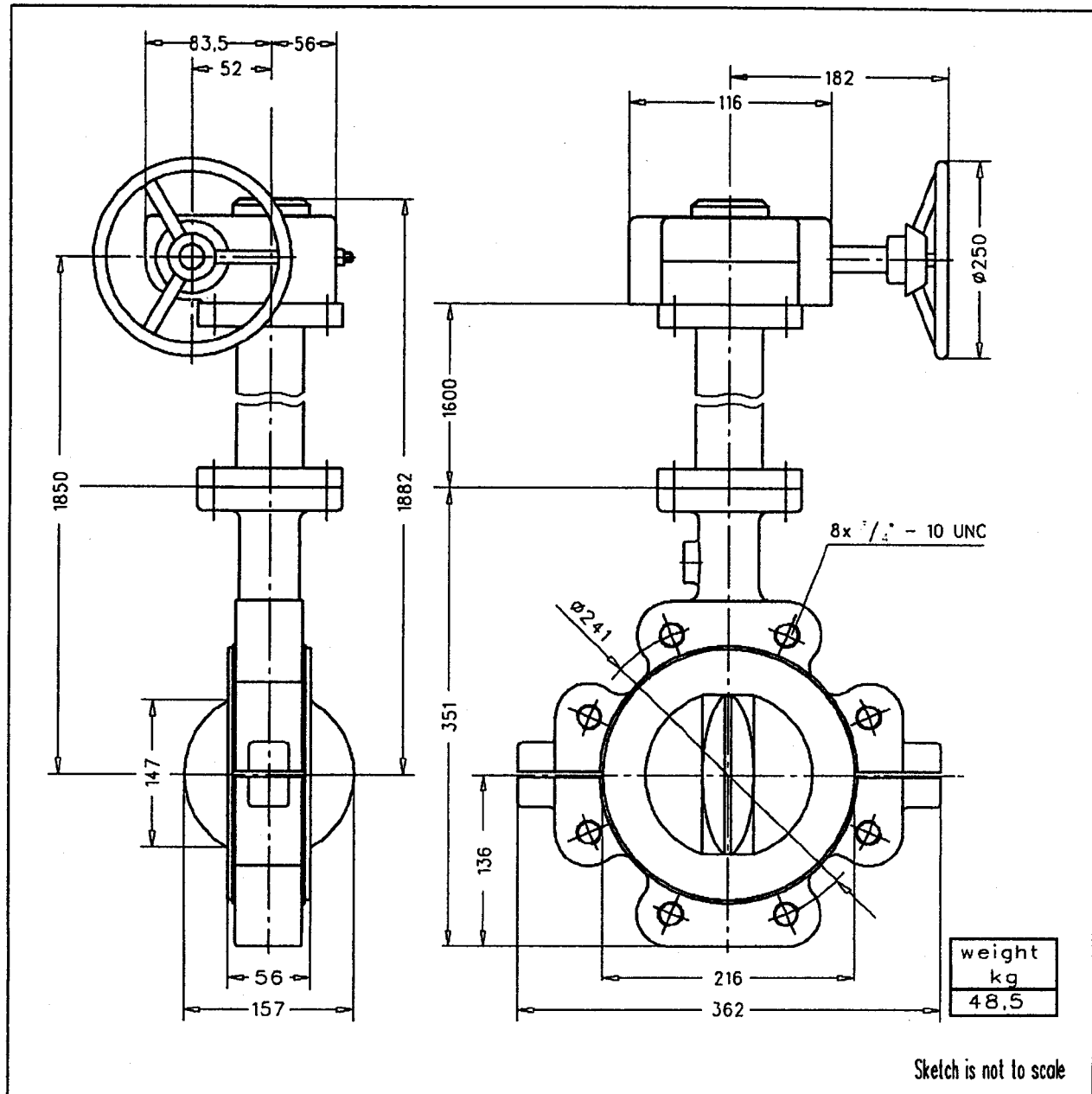
Req-No. : 8408205-CB-PI-REQ-0314

Order No. : 34043072/Zi

Position : 001

Part No. : 40VU60000105

DN 150 6"



Part List

GARLOCK-Valve components and used materials

PVC Arvand

PL 6-0-615 Rev. 01

UAN : 03-3039-020

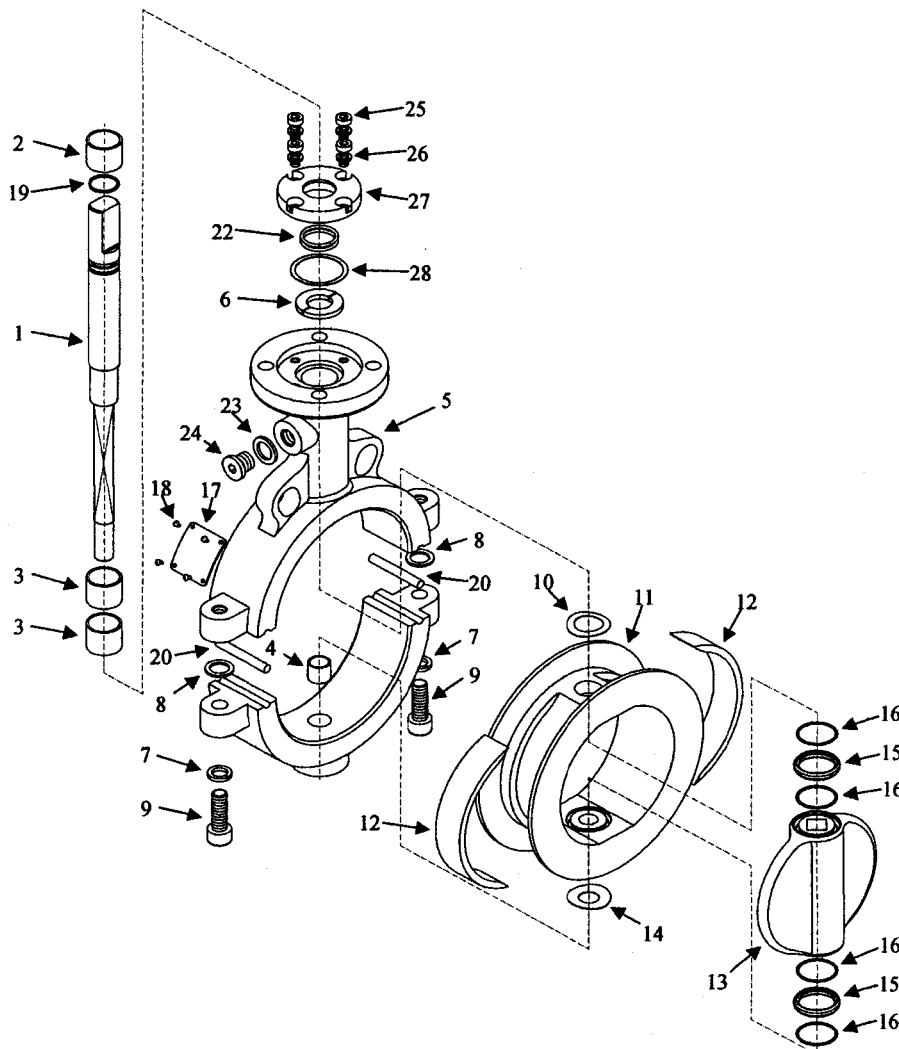
Req-No. : 8408205-CB-PI-REQ-0314

Order No. : 34039789/Zi, 34039792/Zi, 34043072/Zi, 34044700/Zi

Position : miscellaneous

Part No. : miscellaneous

Explosion



Pos	Item	Material	Pos	Item	Material
1	Shaft (one piece)	stainless steel	15	Disc seal ring	PTFE
2	Upper shaft bearing	PTFE, steel	16	O-Ring	Viton
3	Middle shaft bearing	PTFE, steel	17	Type plate	stainless steel
4	Lower shaft bearing	PTFE, steel	18	Taper pin	stainless steel
5	(Split) body	ASTM A395	19	O-Ring	Viton
6	Fixing ring	PTFE	20	Sealing rod	PTFE
7	Spring washer	stainless steel	21		
8	Spacer	PTFE	22	O-Ring	Viton
9	Body bolt	stainless steel (A2)	23	Gasket*	not requested
10	Gasket (upper part)	PTFE	24	Plug*	not requested
11	Body liner	PTFE	25	Screw	stainless steel
12	Elastomer	Viton	26	Spring washer	stainless steel
13	Disc	stainless steel / PTFE	27	Top flange	stainless steel
14	Gasket (bottom part)	PTFE	28	Gasket	PTFE

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Uhde Project No: 03-3039 Job Code: PVC Arvand	Sazeh Project No: 8047 Job Code:	Owner Project No: 8408205 Owner Job Code: PVC Arvand

MECHANICAL CATALOGUE

Technical Documentation

General Index

Chapter	Description	Pages
3	Operating and maintenance instructions (Operating Manual)	4

Operating Manual Garlock Valves

DN : 50-600 mm / 2"-24"
PN : 10 bar

PVC Arvand Operating Manual Rev. 03

UAN : 03-3039-020

Req-No. : 8408205-CB-PI-REQ-0314

Order No. : miscellaneous

Position : miscellaneous

Part No. : miscellaneous

General

1. Storage
2. Installation
3. Maintenance
4. Disassembly
5. Transportation
6. Repair
7. Spare part list

Application limits for Garlock valves

	p _s	t _s max.
PTFE – Liner	10 bar	200 °C
PVDF – Liner	10 bar	135 °C
UHMPE – Liner	10 bar	85 °C

General

In order to derive full benefit from the optimum properties of GARLOCK valves, the following instructions must be strictly adhered to. GARLOCK reserves the right to decline responsibility for the failure of any valve, if these precautions are not observed.

Garlock valves do not fall under the **directive 94/9/EG** ("Atex 100 a"), as they exhibit no potential source for electrical ignition. In application requiring protection from electrostatic charges we recommend the use of our anti-static SAFETY-SEAL valves .

1. Storage

GARLOCK valves are supplied with the disc slightly open. During storage the disc should remain in this position. Always store GARLOCK valves in their original packing. Never store them unprotected.

2. Installation

Connection flanges:

GARLOCK valves are standardly constructed to be installed between flanges to DIN 2501 PN 10 / ANSI Class 150. GARLOCK valves can also be installed between flanges of other standards, as long as the clearance of the disc is guaranteed.

The inner diameter of the flanges must be larger than that part of the disc, exceeding the body when opened (see size A of the dimension tables).

In addition the installation space between the flanges has to guarantee a sufficient clamp width = width of the housing lining. (size B of the dimension tables)

If necessary, spacers are to be used.

DN	Inch	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	mm	43	53	67	93	115	147	188	236	284	322	374	415	467	558
B	mm	43	46	46	52	56	56	60	68	78	92	102	114	127	154

Drawing PL-6-0-612 are giving installation dimensions for Valves with hand lever.

Drawing PL-6-0-613 are giving installation dimensions for Valves with gear operator.

Drawing PL-6-0-614, PL-6-0-617, PL-6-0-618 are giving installation dimensions for Valves with gear operator and stem extension.

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Operating Manual Garlock Valves

PVC Arvand	Operating Manual Rev. 02
UAN	: 03-3039-020

Sealing:

GARLOCK valves can be installed without the use of additional gaskets. Where flanges are uneven or badly pitted, we advise the use of additional gaskets.

In case you manufacture these gaskets yourself, please find below the recommended dimensions.

DN	Inch	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Di	mm	61	71	83	106	128	158	106	259	310	336	388	431	485	579
Da	mm	107	127	142	162	192	218	273	328	378	438	490	540	595	695

We recommend our GYLON Blue Style 3504 gaskets.

The installation of metal reinforced seals or elastomeric seals with metal core is not advisable as this can damage the liner.

Preparation:

Before installation clean the Garlock valve, the pipe flanges and the mating pipework carefully, to ensure that the lining will not be damaged by the ingress of solid particles.

Check that flanges are aligned and parallel.

Flow direction:

GARLOCK valves can be installed independent of the direction of flow and position of the valve.

The angle between valve and piping axis is optional. For media containing solids, we recommend the valve to be installed with the shaft in the horizontal position, the lower half of the disc opening in the direction of flow.

The position of the disc is indicated by the two flat (DN50 to DN300) respectively by the keyway ($\geq$ DN350), for lever operated valves it is indicated by the locking handle and gear operated valves an indication on the gearbox cover plate.

Mounting:

GARLOCK valves must be exactly centered with the disc slightly open (as supplied).

Ensure by testing that the disc can be turned and that the sealing edge will not contact the flange inner edge during opening.

Then tighten the flange bolts evenly by means of a torque wrench in cross sequence. The torque according to table ensures sufficient pressure, to seal securely.

Valves fitted with a double acting actuator should be installed with the disc open at 10°.

Valves fitted with a single acting actuator (fail-safe) are supplied by GARLOCK with a fixing clip, ensuring the right position of the disc. After installation switch on auxiliary-energy and turn disc a few degrees against the spring pressure. Then remove the fixing clip carefully.

For installation in glass-lined pipework with ball or pan connectors only special GARLOCK PTFE-spacers should be used.

Earth cables are manufactured in length and size to be assembled under the pipe flange bolts without any problem.

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Operating Manual Garlock Valves

PVC Arvand Operating Manual Rev. 02

UAN : 03-3039-020

Bolt torque table

Flanges DIN 2501 PN10

DN	Inch	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Screw DIN		4x	4x	8x	8x	8x	8x	8x	12x	12x	16x	16x	20x	20x	20x
		M16	M16	M16	M16	M16	M20	M20	M20	M20	M20	M24	M24	M24	M27
Ma	Nm	80	120	60	90	120	170	270	230	280	230	330	370	400	600

Flanges ANSI B 16.5 Class 150

DN	Inch	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Screw ANSI "UNC"		4x	4x	4x	8x	8x	8x	8x	12x	12x	12x	16x	16x	20x	20x
		5/8"-11	5/8"-11	5/8"-11	5/8"-11	3/4"-10	3/4"-10	3/4"-10	7/8"-9	7/8"-9	1"-8	1"-8	1 1/8"-7	1 1/8"-7	1 1/4"-7
Ma	Nm	80	120	120	90	130	170	260	240	290	340	360	500	430	660

3. Maintenance

GARLOCK valves are maintenance free due to their method of construction.

In case the lining was damaged or destroyed mechanically which makes a partly or complete replacement of the interior necessary, an easy and quick repair is possible.

4. Disassembly

Ensure before dismounting, that the pipework is depressurized and free of media.

Turn the disc to transportation position of about 10°.

Loosen flange bolts crosswise and remove.

Remove valve from the flanges.

5. Repair

The repair of the valves should only be carried out by trained personnel. The repair steps to exchange the complete interior are as follows:

- Remove body bolts.
- Remove the lower body half.
- Pull the complete interior from the shaft and upper body.
- Fit the new liner/disc assembly to the shaft and together with the elastomer strips to the upper body..
- Fit security elements and spacer.
- Refit lower half body and tighten body bolts.

Check valve for tightness before new assembly.

6. Transportation

For transportation the valve disc has to be placed in transportation position of about 10°.

Clear valve from any contamination or dirt.

Pack cleared valve sufficiently in order to protect against dirt and damage.

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Operating Manual

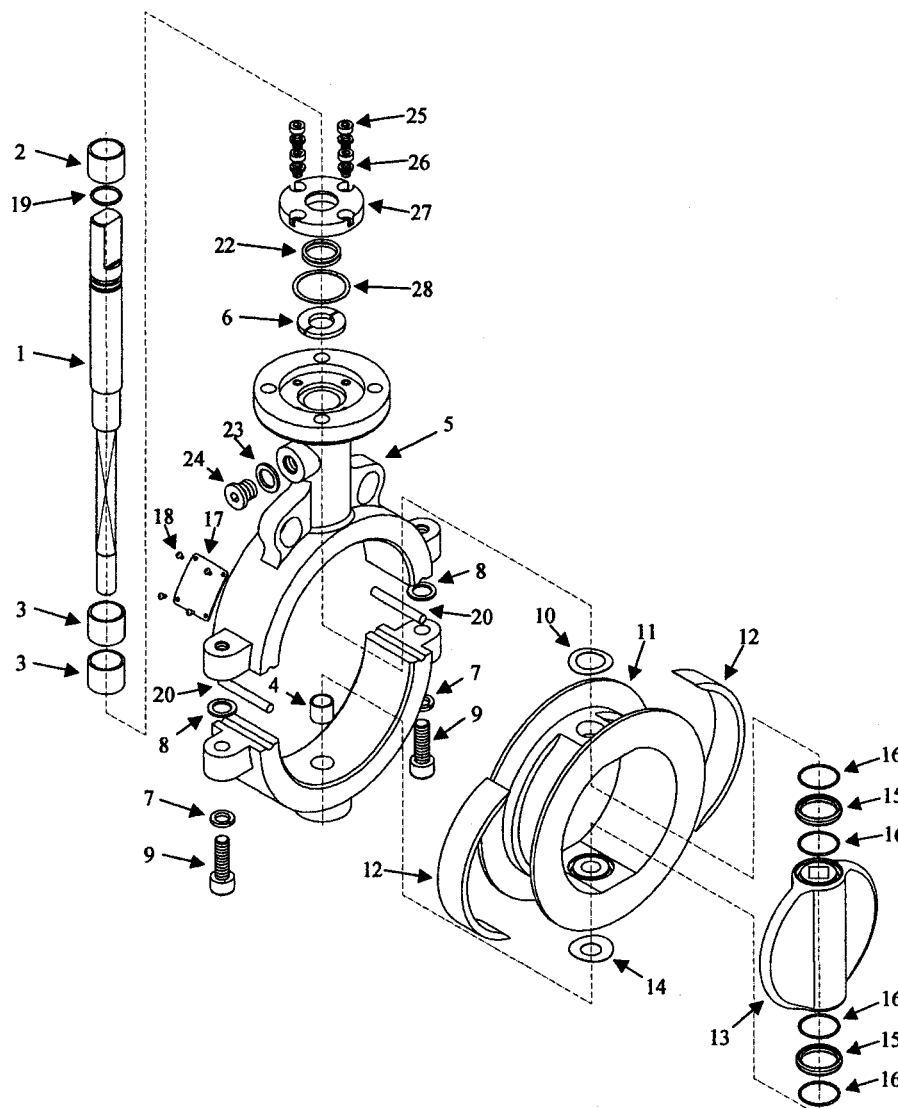
Garlock Valves

PVC Arvand

Operating Manual Rev. 02

UAN : 03-3039-020

7. Spare part list



Position	Item	Positionn	Item
1	Shaft (one piece)	15	Disc seal ring
2	Upper shaft bearing	16	O-Ring
3	Middle shaft bearing	17	Type plate
4	Lower shaft bearing	18	Taper pin
5	(Split) body	19	O-Ring
6	Fixing ring	20	Sealing rod
7	Spring washer	21	
8	Spacer	22	O-Ring
9	Body bolt	23	Gasket*
10	Gasket (upper part)	24	Plug*
11	Body liner	25	Screw
12	Elastomer back-up strip	26	Spring washer
13	Disc	27	Top flange
14	Gasket (bottom part)	28	Gasket

*...upon request

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Uhde Project No: 03-3039	Sazeh Project No: 8047	Owner Project No: 8408205
Job Code: PVC Arvand	Job Code:	Owner Job Code: PVC Arvand

MECHANICAL CATALOGUE

Technical Documentation

General Index

Chapter	Description	Pages
4	Installation instruction (Operating Manual)	4

Operating Manual

Garlock Valves

DN : 50-600 mm / 2"-24"
PN : 10 bar

PVC Arvand Operating Manual Rev. 03

UAN : 03-3039-020
Req-No. : 8408205-CB-PI-REQ-0314
Order No. : miscellaneous
Position : miscellaneous
Part No. : miscellaneous

General

1. Storage
2. Installation
3. Maintenance
4. Disassembly
5. Transportation
6. Repair
7. Spare part list

Application limits for Garlock valves

	p_s	t_s max.
PTFE – Liner	10 bar	200 °C
PVDF – Liner	10 bar	135 °C
UHMPE – Liner	10 bar	85 °C

General

In order to derive full benefit from the optimum properties of GARLOCK valves, the following instructions must be strictly adhered to. GARLOCK reserves the right to decline responsibility for the failure of any valve, if these precautions are not observed.

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1. Storage

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2. Installation

Connection flanges:

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The inner diameter of the flanges must be larger than that part of the disc, exceeding the body when opened (see size A of the dimension tables).

In addition the installation space between the flanges has to guarantee a sufficient clamp width = width of the housing lining. (size B of the dimension tables)

If necessary, spacers are to be used.

DN	Inch	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	mm	43	53	67	93	115	147	188	236	284	322	374	415	467	558
B	mm	43	46	46	52	56	56	60	68	78	92	102	114	127	154

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Operating Manual Garlock Valves

PVC Arvand Operating Manual Rev. 02

UAN : 03-3039-020

Sealing:

GARLOCK valves can be installed without the use of additional gaskets. Where flanges are uneven or badly pitted, we advise the use of additional gaskets.

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DN	Inch	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Di	mm	61	71	83	106	128	158	106	259	310	336	388	431	485	579
Da	mm	107	127	142	162	192	218	273	328	378	438	490	540	595	695

We recommend our GYLON Blue Style 3504 gaskets.

The installation of metal reinforced seals or elastomeric seals with metal core is not advisable as this can damage the liner.

Preparation:

Before installation clean the Garlock valve, the pipe flanges and the mating pipework carefully, to ensure that the lining will not be damaged by the ingress of solid particles.

Check that flanges are aligned and parallel.

Flow direction:

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The angle between valve and piping axis is optional. For media containing solids, we recommend the valve to be installed with the shaft in the horizontal position, the lower half of the disc opening in the direction of flow.

The position of the disc is indicated by the two flat (DN50 to DN300) respectively by the keyway ($\geq$ DN350), for lever operated valves it is indicated by the locking handle and gear operated valves an indication on the gearbox cover plate.

Mounting:

GARLOCK valves must be exactly centered with the disc slightly open (as supplied).

Ensure by testing that the disc can be turned and that the sealing edge will not contact the flange inner edge during opening.

Then tighten the flange bolts evenly by means of a torque wrench in cross sequence. The torque according to table ensures sufficient pressure, to seal securely.

Valves fitted with a double acting actuator should be installed with the disc open at 10°.

Valves fitted with a single acting actuator (fail-safe) are supplied by GARLOCK with a fixing clip, ensuring the right position of the disc. After installation switch on auxiliary-energy and turn disc a few degrees against the spring pressure . Then remove the fixing clip carefully.

For installation in glass-lined pipework with ball or pan connectors only special GARLOCK PTFE-spacers should be used.

Earth cables are manufactured in length and size to be assembled under the pipe flange bolts without any problem.

Garlock GmbH

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Operating Manual Garlock Valves

PVC Arvand Operating Manual Rev. 02

UAN : 03-3039-020

Bolt torque table

Flanges DIN 2501 PN10

DN	Inch	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Screw DIN		4x	4x	8x	8x	8x	8x	8x	12x	12x	16x	16x	20x	20x	20x
		M16	M16	M16	M16	M16	M20	M20	M20	M20	M20	M24	M24	M24	M27
Ma	Nm	80	120	60	90	120	170	270	230	280	230	330	370	400	600

Flanges ANSI B 16.5 Class 150

DN	Inch	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Screw ANSI "UNC"		4x	4x	4x	8x	8x	8x	8x	12x	12x	12x	16x	16x	20x	20x
		5/8"-11	5/8"-11	5/8"-11	5/8"-11	3/4"-10	3/4"-10	3/4"-10	7/8"-9	7/8"-9	1"-8	1"-8	1 1/8"-7	1 1/8"-7	1 1/4"-7
Ma	Nm	80	120	120	90	130	170	260	240	290	340	360	500	430	660

3. Maintenance

GARLOCK valves are maintenance free due to their method of construction.

In case the lining was damaged or destroyed mechanically which makes a partly or complete replacement of the interior necessary, an easy and quick repair is possible.

4. Disassembly

Ensure before dismounting, that the pipework is depressurized and free of media.

Turn the disc to transportation position of about 10°.

Loosen flange bolts crosswise and remove.

Remove valve from the flanges.

5. Repair

The repair of the valves should only be carried out by trained personnel. The repair steps to exchange the complete interior are as follows:

- Remove body bolts.
 - Remove the lower body half.
 - Pull the complete interior from the shaft and upper body.
 - Fit the new liner/disc assembly to the shaft and together with the elastomer strips to the upper body..
 - Fit security elements and spacer.
 - Refit lower half body and tighten body bolts.
- Check valve for tightness before new assembly.

6. Transportation

For transportation the valve disc has to be placed in transportation position of about 10°.

Clear valve from any contamination or dirt.

Pack cleared valve sufficiently in order to protect against dirt and damage.

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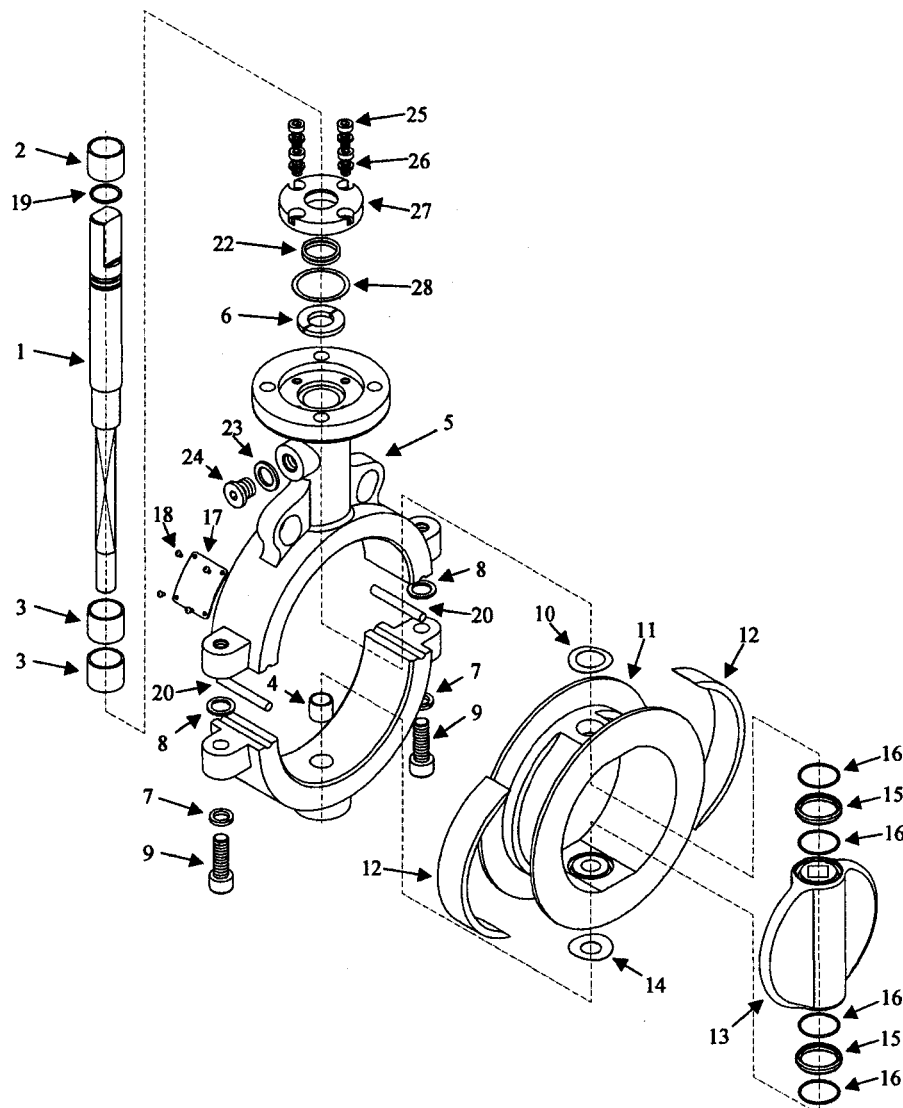
Operating Manual Garlock Valves

PVC Arvand

Operating Manual Rev. 02

UAN : 03-3039-020

7. Spare part list



Position	Item	Positionn	Item
1	Shaft (one piece)	15	Disc seal ring
2	Upper shaft bearing	16	O-Ring
3	Middle shaft bearing	17	Type plate
4	Lower shaft bearing	18	Taper pin
5	(Split) body	19	O-Ring
6	Fixing ring	20	Sealing rod
7	Spring washer	21	
8	Spacer	22	O-Ring
9	Body bolt	23	Gasket*
10	Gasket (upper part)	24	Plug*
11	Body liner	25	Screw
12	Elastomer back-up strip	26	Spring washer
13	Disc	27	Top flange
14	Gasket (bottom part)	28	Gasket

*...upon request

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Installation Dimensions

GARLOCK-Valve with LUG Body, Type 111 L-MT
complete with gear operator

Flange connection: ANSI B 16.5 - 150 lbs/sq. in.
Face to face dimension: DIN EN 558 GR20

PVC Arvand

PL 6-0-613 Rev. 03

UAN : 03-3039-020

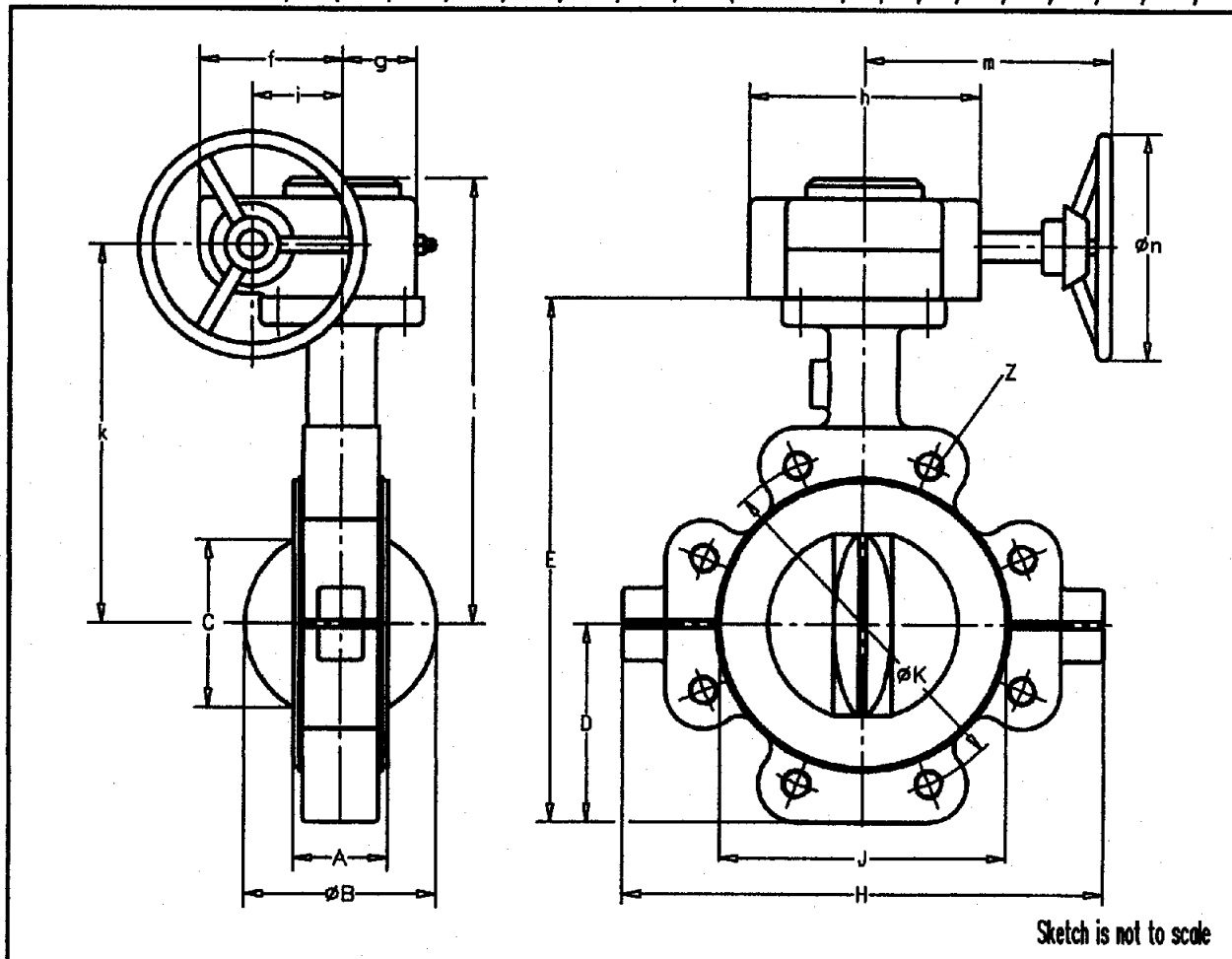
Req-No. : 8408205-CB-PI-REQ-0314

Order No. : 34039789/Zi ; 34043072/Zi ; 34044700/Zi

Position : 001 to 003 / 004 to 011 (acc. table)

Part No. : VRC254A / VUC254A (acc. table)

DN 80/100/150/200/250/300/350/400/500/600 3"/4"/6"/8"/10"/12"/14"/16"/20"/24"



Pos.	Part No.	Dimension A		B	C	D	E	H	J	ØK	Z	f	g	h	i	k	l	m	Øn	weight kg	
		Inch	mm																		
001	VRC254A	3	80	46	82	67	91	256	252	127	152	4x 5/8"-11 UNC	62	44	88	38,5	191,5	223	152	125	10,5
002	VRC254A	4	100	52	106	93	109	289	290	159	190	8x 5/8"-11 UNC	62	44	88	38,5	206,5	238	152	125	14,2
003	VRC254A	6	150	56	157	147	136	351	362	216	241	8x 3/4"-10 UNC	83,5	56	116	52,0	250,0	282	182	250	22,9
004	VUC254A	6	150	56	157	147	136	351	362	216	241	8x 3/4"-10 UNC	83,5	56	116	52,0	250,0	282	182	250	22,9
005	VUC254A	8	200	60	197	188	163	408	416	270	298	8x 3/4"-10 UNC	83,5	56	116	52,0	280,0	312	182	250	29,2
006	VUC254A	10	250	68	246	236	200	480	508	324	362	12x 7/8"- 9 UNC	105	75	150	66,7	322,0	361	216	300	47,9
007	VUC254A	12	300	78	295	284	233	553	575	375	432	12x 7/8"- 9 UNC	105	75	150	66,7	362,0	401	216	300	63,5
008	VUC254A	14	350	92	335	322	265	640	640	413	476	12x 1"- 8 UNC	131	96	198	89,5	370,0	413	283	450	120,0
009	VUC254A	16	400	102	387	374	305	725	720	470	540	16x 1"- 8 UNC	131	96	198	89,5	425,0	468	283	450	149,2
010	VUC254A	20	500	127	484	467	370	880	830	584	635	20x 1 1/4"- 8 UN	178	118	252	123,0	560,0	616	335	450	274,8
011	VUC254A	24	600	154	578	558	415	990	960	692	749	20x 1 1/4"- 8 UN	209	145	315	154,0	625,0	702	360	450	427,7

* DIN EN 558 GR25

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Part List

GARLOCK-Valve components and used materials

PVC Arvand

PL 6-0-615 Rev. 01

UAN : 03-3039-020

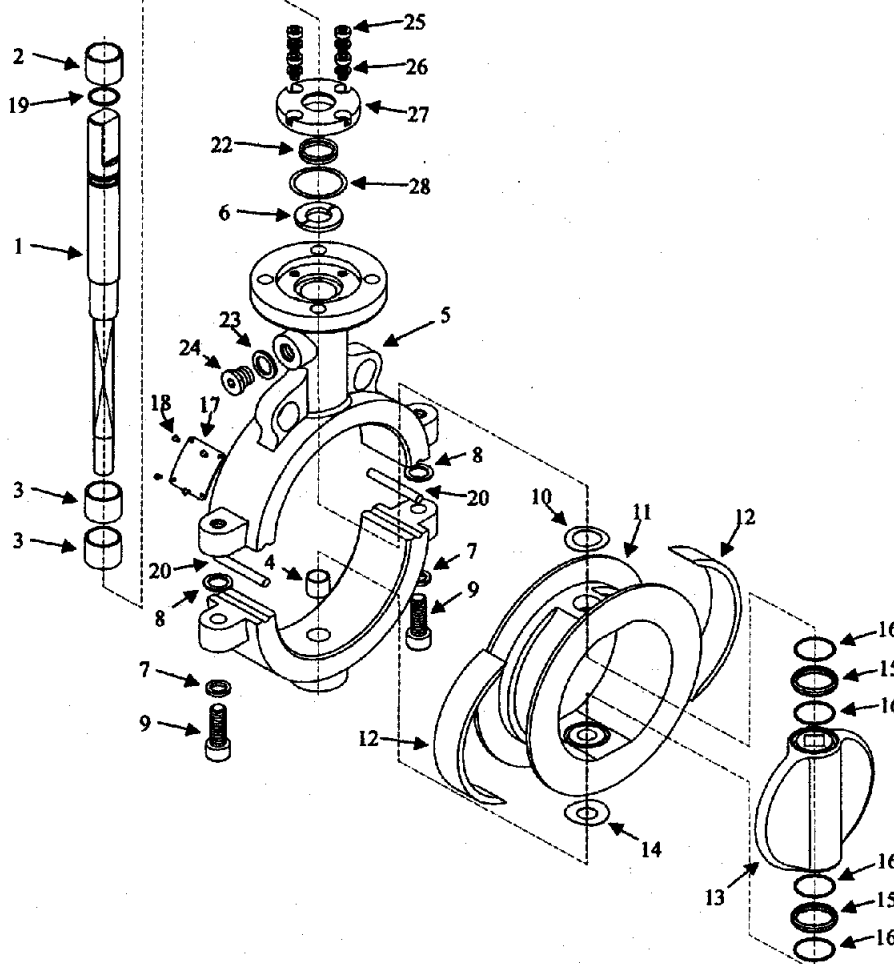
Req-No. : 8408205-CB-PI-REQ-0314

Order No. : 34039789/Zi, 34039792/Zi, 34043072/Zi, 34044700/Zi

Position : miscellaneous

Part No. : miscellaneous

Explosion



Pos	Item	Material	Pos	Item	Material
1	Shaft (one piece)	stainless steel	15	Disc seal ring	PTFE
2	Upper shaft bearing	PTFE, steel	16	O-Ring	Viton
3	Middle shaft bearing	PTFE, steel	17	Type plate	stainless steel
4	Lower shaft bearing	PTFE, steel	18	Taper pin	stainless steel
5	(Split) body	ASTM A395	19	O-Ring	Viton
6	Fixing ring	PTFE	20	Sealing rod	PTFE
7	Spring washer	stainless steel	21		
8	Spacer	PTFE	22	O-Ring	Viton
9	Body bolt	stainless steel (A2)	23	Gasket*	not requested
10	Gasket (upper part)	PTFE	24	Plug*	not requested
11	Body liner	PTFE	25	Screw	stainless steel
12	Elastomer	Viton	26	Spring washer	stainless steel
13	Disc	stainless steel / PTFE	27	Top flange	stainless steel
14	Gasket (bottom part)	PTFE	28	Gasket	PTFE

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