



controlled swing check valves

Controlled swing check
valves catalogue
Ref. RA-20031
September 2004 edition



energy valve group

VECTOR & WELLHEADS ENGINEERING, S.L.

Description

V&W controlled check valves are used to protect the pumping or turbine units against backflow in case of standstill, or at no-load condition.

Under normal operating conditions, the non-return valve is kept in the open position by the fluid flow. Full opening is achieved because the disc is counterweight balanced, and is kept completely out of the fluid flow.

In case of failure or sudden shut-off of the pumping station, the check valve will be closed. The closing will be initiated by a closing spring within the actuator, and the closed final position and sealing is reached by the fluid pressure.

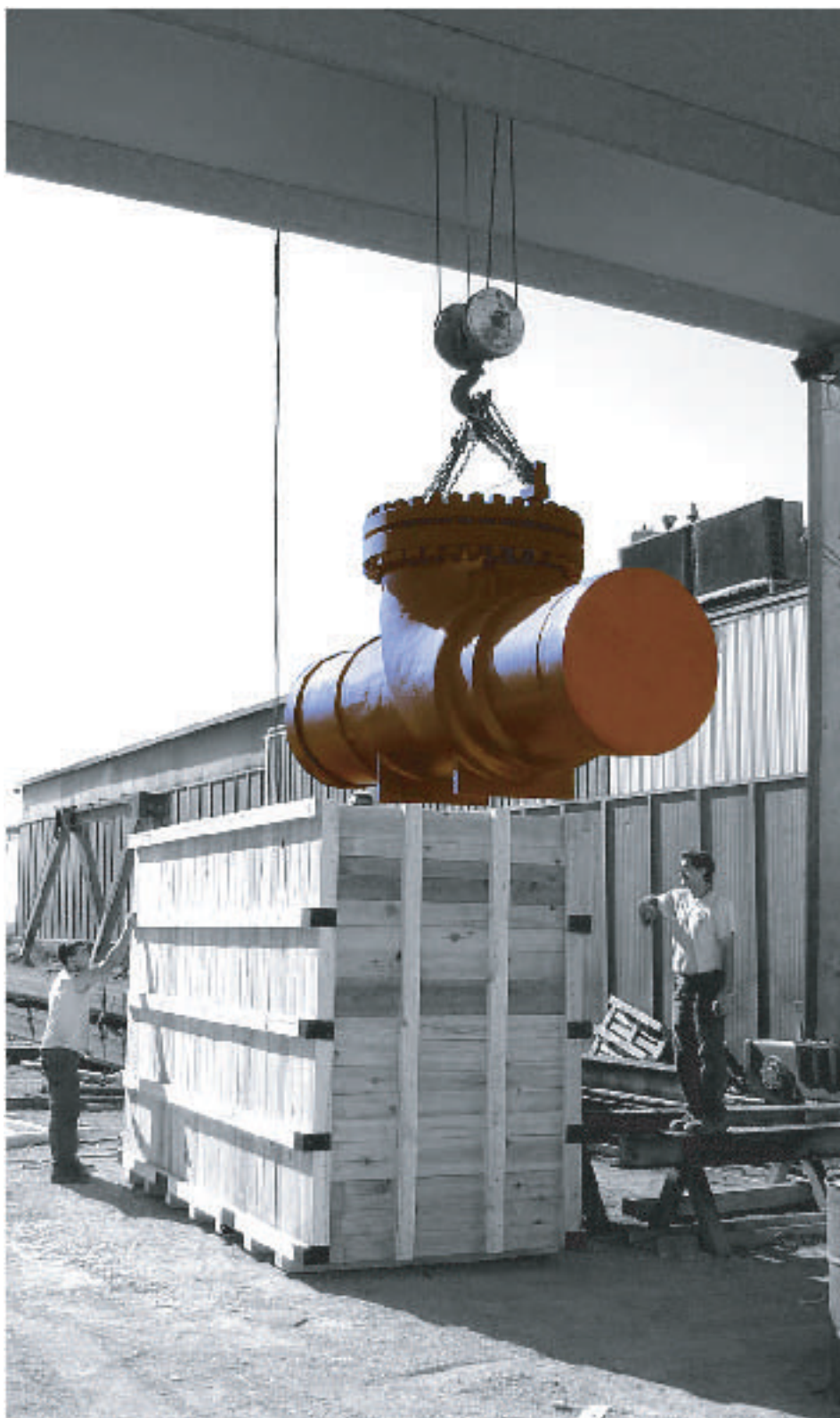
The closing spring is so dimensioned that the check valve does not remain in the closed position, but starts opening again from a pressure difference of approximately one bar, preventing overpressure buildup in the pumping or turbine units.

V&W controlled check valves offer a low resistance coefficient ζ by careful shaping of the internal fluid path. Harfaced sealing faces at disc and body seat are featured.

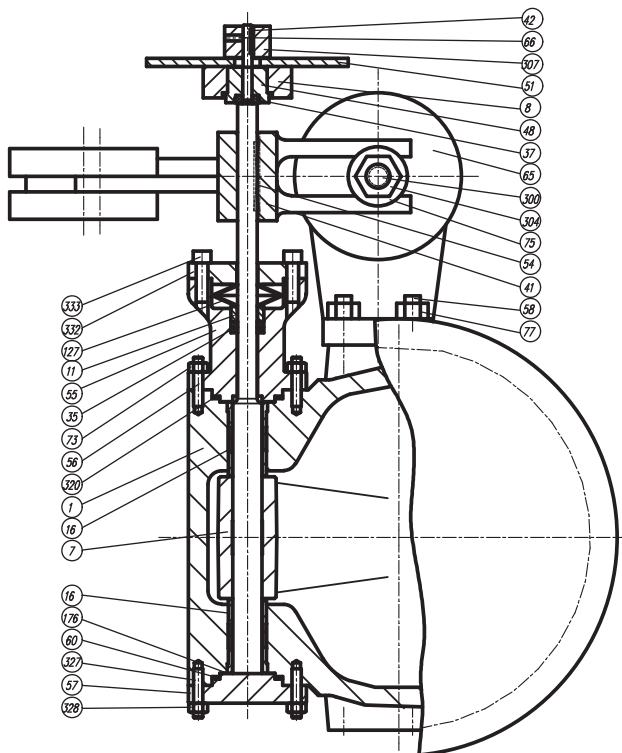
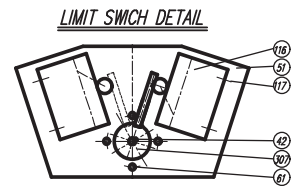
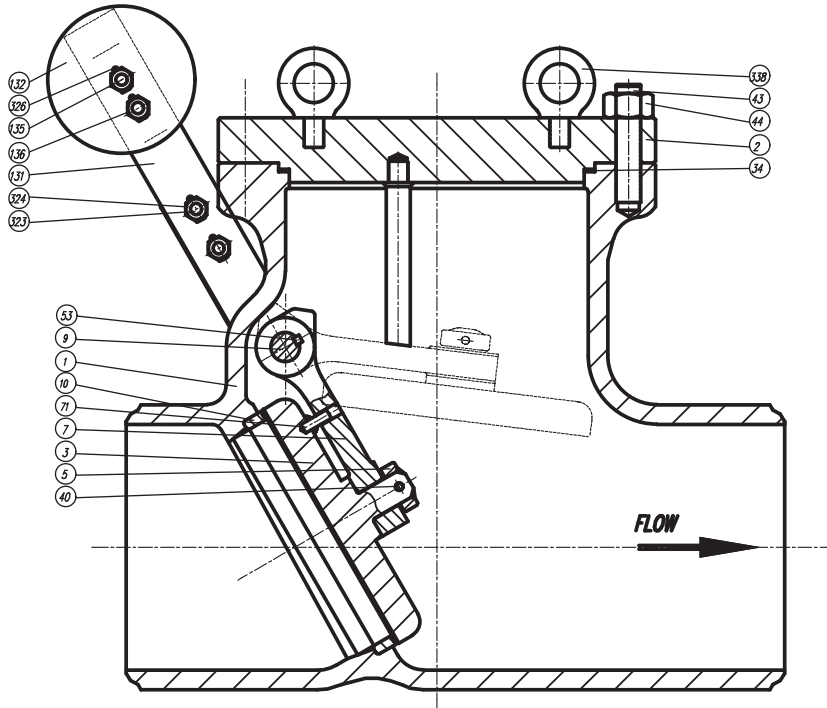
Limit switches can be mounted as an option.

Special designs of valve ends in regard of dimensions and materials, as well as other variations in design are available on customers' request.

V&W valves can be applied in applications demanding high-quality and thoroughly tested valves which offer many years of trouble-free service.



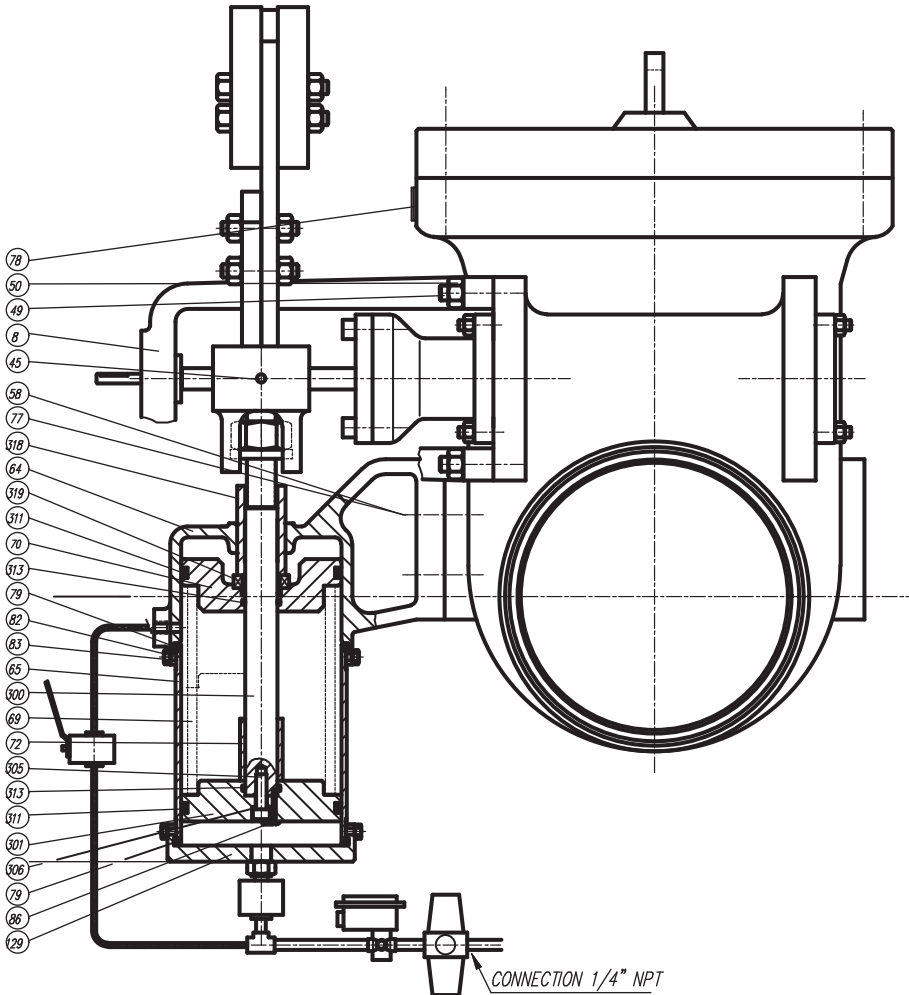
Controlled swing check



Hydraulic or pneumatic actuators available

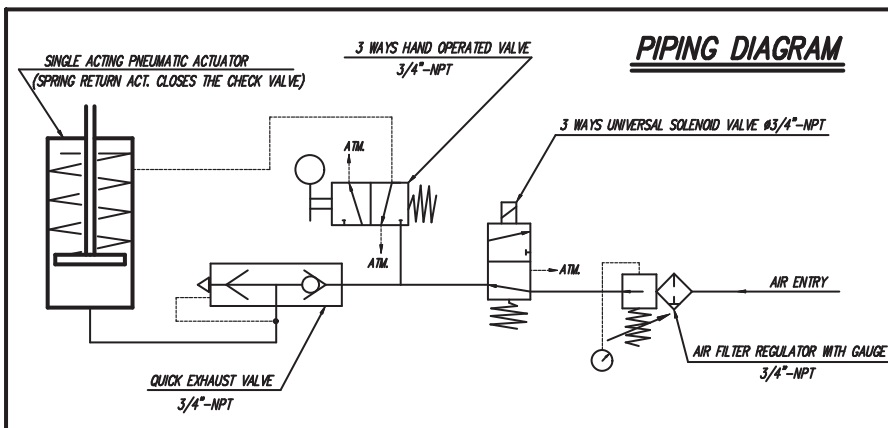
Solenoid valve	Action
Energized	Air in cylinder vented, spring pushing to close the valve.
Deenergized	Air applied to cylinder. Disc free as a standard check valve, but full open by counterweight action.

Controlled swing check



LIST OF MATERIALS

N.	QTY	Description	Material
1	1	BODY	A 216 WCB
2	1	BONNET	A 105
3	1	DISC	A 182 F316+STELLITE
5	1	DISC RING	AISI 316
7	1	HINGE	A 351 CF8M
8	1	CYLINDER SUPPORT	A-216 WCB
9	1	HINGE SHAFT	A 182 F51
10	1	SEAT RING	A 182 F316+STELLITE
11	1	GLAND	AISI 316
16	2	GUIDE SHAFT	B62
34	1	BODY BONNET GASKET	316+GRAPHITE
35	4	PACKING	GRAPHITE
37	1	BEARING	COMMERCIAL
40	1	DISC PIN	AISI 316
41	1	PITMAN	A 216 WCB
42	1	INDICATOR KEY	AISI 1043
43	20	BODY BONNET STUD	A 193 B7
44	20	BODY BONNET STUD NUT	A 194 2H
45	1	PITMAN SCREW	CARBON STEEL
48	1	SLEEVE BUSHING	B62
49	4	BONNET YOKE STUD	A 193 B7
50	4	BONNET YOKE STUD NUT	A 194 2H
51	1	LIMIT SWITCH SUPPORT	A 105
53	1	SHAFT KEY	AISI 316
54	1	SHAFT PITMAN KEY	AISI 1043
55	1	PACKING BONNET	A 105
56	6	PACKING BONNET STUD	A 193 B7
57	1	BOTTOM CAP	A 105
58	4	STUD	A 193 B7
60	1	BOTTOM CAP GASKET	316+GRAPHITE
61	4	LIMIT SWITCH PLATE BOLT	CARBON STEEL
64	1	CYLINDER SUPPORT	A 216 WCB
65	1	CYLINDER	A105 CHROMIUM PLATED
66	1	LIMIT SWITCH STOP SCREW	CARBON STEEL
69	1	SPRING	AISI 6150
70	1	SPRING GUIDE	BRONZE
71	1	STOP PIN	AISI 316
72	1	SPRING GUIDE STOP	A 105
73	6	PACKING BONNET STUD NUT	A 194 2H
75	1	WASHER REGULATION	B62
77	4	NUT	A 194 2H
78	1	NAMEPLATE	AISI 316
79	2	O-RING	FPM
82	6	SCREW	CARBON STEEL
83	6	SCREW NUT	CARBON STEEL
86	1	PIN	AISI 316
116	2	LIMIT SWITCH	
117	6	LIMIT SWITCH BOLT	CARBON STEEL
127	4	BELLEVILLE SPRING	AISI 1043
129	1	LOWER CYLINDER BONNET	A 105
131	1	COUNTERWEIGHT BAR	CARBON STEEL
132	1	COUNTERWEIGHT	CARBON STEEL
135	2	COUNTERWEIGHT STUD	CARBON STEEL
136	4	COUNTERWEIGHT STUD NUT	CARBON STEEL
176	6	SCREW	AISI 304
300	1	CYLINDER SHAFT	A 479 TP410
301	1	PISTON	B62
304	1	CYLINDER SHAFT NUT	CARBON STEEL
305	1	CYLINDER SHAFT BOLT	CARBON STEEL
306	1	WASHER	CARBON STEEL
307	1	STOP LIMIT SWITCH	A105
311	2	O-RING	FPM
313	2	O-RING	FPM
318	1	REGULATION NUT	B62
319	1	BEARING	COMMERCIAL
320	1	PACKING BONNET GASKET	316+GRAPH.
324	2	STUD	CARBON STEEL
325	4	STUD NUT	CARBON STEEL
326	8	PIN	CARBON STEEL
327	6	BOTTOM CAP STUD	A 193 B7
328	6	BOTTOM CAP STUD NUT	A 194 2H
332	2	GLAND PLATE	A 105
333	6	GLAND PLATE BOLT	CARBON STEEL
338	2	LIFTING EYE BOLT	CARBON STEEL



Different configurations available upon request

Control valves

Globe, angle and three-way

Body material	Body size		Pressure class		Ends
	ASME	DIN	ASME	DIN	
Cast steel	3/4" thru 2"	DN 20 thru DN 50	150 thru 2500	PN 10 thru PN 400	SW, BW, FLG
Cast steel	3" thru 26"	DN 80 thru DN 650	150 thru 2500	PN 10 thru PN 400	BW, FLG
Forged steel	3/4" thru 2"	DN 20 thru DN 50	150 thru 2500	PN 10 thru PN 400	SW, BW
Forged steel	3" thru 16"	DN 80 thru DN 400	150 thru 2500	PN 10 thru PN 400	BW

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Piston check valves

ASME Class	Bolted bonnet		Pressure Seal	
	From	To	From	To
150	2"	10"	—	—
300	2"	10"	—	—
600	2"	10"	2"	16"
900	2"	10"	2"	16"
1500	2"	10"	2"	16"
2500	2"	10"	2"	12"
4500	—	—	2"	8"

Diaphragm valves

ASME Class	From	To
150	2"	8"
300	2"	8"

Other valves and supplies

Butterfly valves.
 Plug valves.
 Safety valves.
 Through-conduit gate valves.
 Full bore check valves.
 Block & bleed gate valves.
 Cryogenic service valves (ball, gate, globe, check).
 Three way globe valves.
 Bellows sealed valves (globe, gate).
 Flanges, desuperheaters, piping, bolting, gaskets.
 Nuclear BLADE GUIDES.

Trunnion mounted ball valves

Full & reduced bore, soft & metal to metal seated

ASME Class	End entry		Top entry	
	From	To	From	To
150	2"	60"	2"	48"
300	2"	60"	2"	48"
600	2"	56"	2"	48"
900	2"	56"	2"	30"
1500	2"	30"	2"	24"
2500	2"	16"	2"	12"

Floating ball valves

Full & reduced bore

ASME Class	End entry		Forged steel top entry		Cast steel top entry	
	From	To	From	To	From	To
150	1/2"	8"	1/2"	2"	1/2"	6"
300	1/2"	8"	1/2"	2"	1/2"	6"
600	1/2"	6"×4"	1/2"	2"	1/2"	6"
900	1/2"	2"	1/2"	2"	—	—
1500	1/2"	2"	1/2"	2"	—	—
2500	—	—	1/2"	2"	—	—



See also: **V&W Ball valves catalogue, ref. BV-20034**
V&W Control valves catalogue, ref. CV-20035
V&W Gate, globe, check valves, ref. GGC-20031
V&W Butterfly valves catalogue, ref. BT-20036

Quality



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All Vector & Wellheads Engineering products are manufactured in strict accordance to our Quality Assurance Manual requirements, which covers all the production stages, including design, purchasing, manufacturing, welding, testing, etc. Our excellent Quality Assurance Program has enabled us to obtain the following certifications:

- UNE-EN-ISO 9001**
- API-6D**
- CE marking**
- RePro (Achilles) registered supplier**

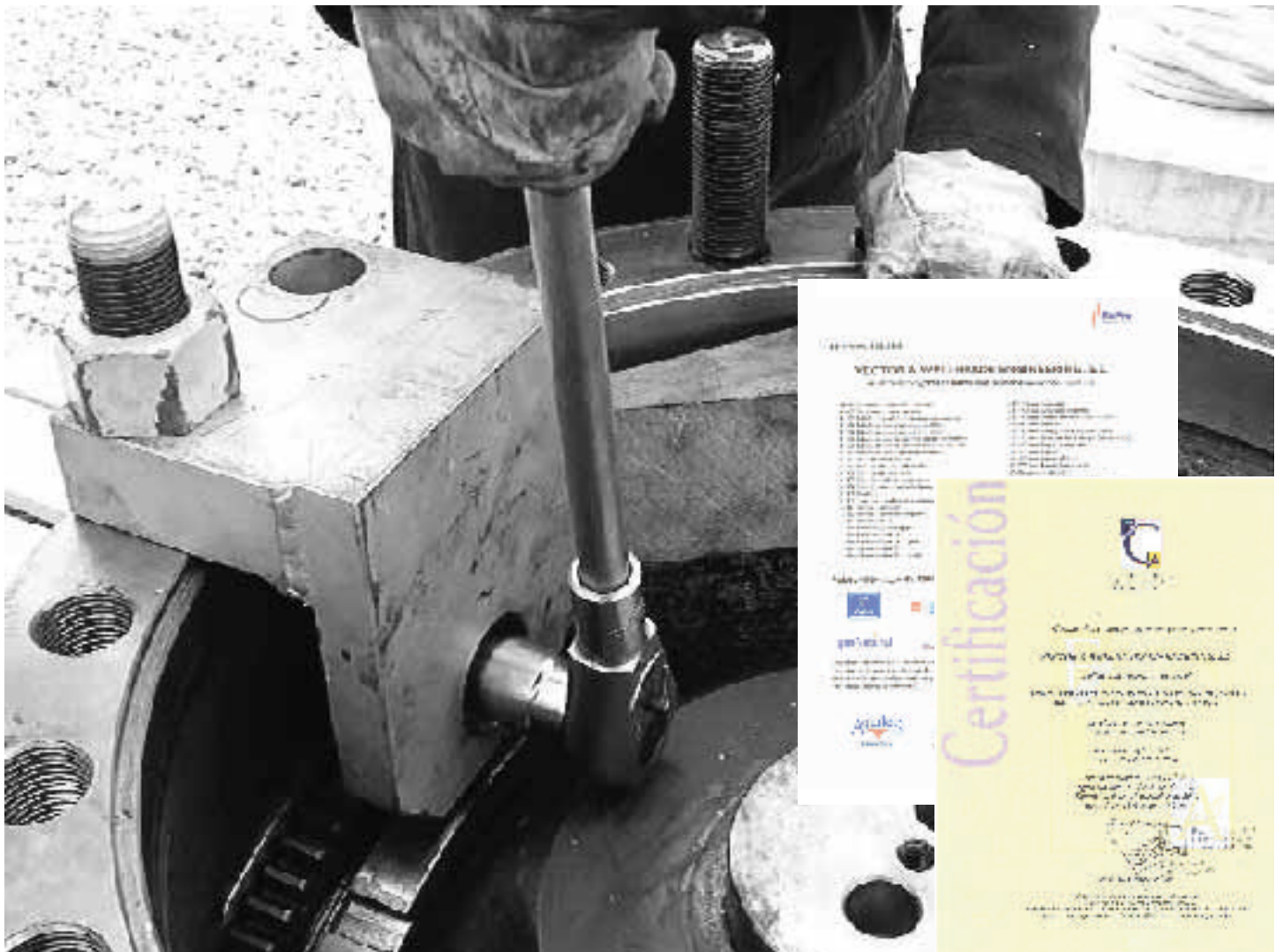
Each aspect of our activity is based on operating within strictly defined procedures, including: ultrasonic, x-ray, magnetic particle inspection, welding, photoelasticity, and fire safe test.



6D-0550



ISO 9001:2000





Vector & Wellheads

Engineering, S.L. is a

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