

FIG. NO. 350EC15 / ...



**APPROVAL No. 01/02**

### APPLICATIONS

MODEL 350EC14/15 IS DESIGNED FOR CRITICAL SERVICE APPLICATIONS INVOLVING LETHAL, TOXIC, CORROSIVE, INFLAMMABLE, VOLATILE, RADIATING, OR EXPENSIVE FLUIDS.

THE MOST COMMON APPLICATIONS ARE

- **DRY CHLORINE (CL<sub>2</sub>) SERVICE TEMPERATURE -40°C TO 120°C / -40°F TO 248°F**
- ANHYDROUS HYDROGEN CHLORIDE (HCL)
- ANHYDROUS HYDROFLUORIC ACID (HF)
- PHOSGENE (COCL<sub>2</sub>)
- VINYL CHLORIDE MONOMER (VCM)
- ETHYLENE DICHLORIDE (EDC)
- ISOCYANITES (MDI, TDI, HDI, ETC.) AND
- FLUIDS OF SIMILAR NATURE.

MODEL 350EC14 (UP TO DN50/2") AND 350EC15 (>DN50/2") ARE EURO CHLOR APPROVED FOR THEIR COMPLIANCE WITH GEST 89/140. DESIGN AND SELECTED MATERIALS ALSO MEET THE REQUIREMENTS OF CHLORINE INSTITUTE PAMPHLET 6 SERVICE CLASSES I THROUGH VI. THE UNIQUE VALVE DESIGN GUARANTEES RELIABLE AND EXCELLENT PROTECTION AGAINST LEAKS OR FUGITIVE EMISSIONS. THE STEM SEAL REQUIRES VIRTUALLY NO MAINTENANCE DUE TO LEAK FREE WELD CONNECTIONS OF THE BELLOWS WITH BONNET AND STEM. CONSTANT PACKING MONITORING AND RE-PACKING IS ELIMINATED. IN THE UNLIKELY EVENT OF A BELLOWS FAILURE THE BACKUP PACKING GUARANTEES SAFE VALVE PERFORMANCE UNTIL THE NEXT SCHEDULED SHUTDOWN. SPECIAL DUAL CONTAINMENT DESIGNS FOR COMPLETE VALVE LEAKAGE MONITORING AS WELL AS DESIGNS FOR FLOW CONTROL APPLICATIONS WITH ENHANCED BELLOWS CYCLE LIFE ARE AVAILABLE.

### DESIGN FEATURES

#### BELLOWS AND PACKING

- BELLOWS PROTECTED IN EXTENDED BODY AGAINST DIRECT IMPINGEMENT FROM PRODUCT FLOW
- MULTIPLE WALLS AND HYDROFORMED BELLOWS
- UP TO 50.000 BELLOWS OPERATIONS GUARANTEED
- PACKING AREA INTEGRAL WITH BONNET – NO WELDED-IN SLEEVE

#### STEM

- ONE-PIECE STEM WITH OUTSIDE THREAD
- METAL-TO-METAL BACK SEAT PROVIDES ADDITIONAL SAFETY
- GUIDED STEM ON TOP AND BOTTOM

#### BODY AND BONNET

- BODIES ARE ONE-PIECE FORGINGS OR CASTINGS WITH LARGER THAN REQUIRED WALL THICKNESS AND INTEGRAL FLANGES
- NO WELDS IN PRESSURE BOUNDARY
- BODY BONNET JOINT GASKET IS FULLY CONFINED TO PREVENT GASKET FLOW OR BLOWOUT

#### SEATS

- SOLID HARDFACINGS FOR OUTSTANDING CORROSION AND WEAR RESISTANCE
- KNIFE EDGE METAL-TO-METAL SEAT FOR BUBBLE-TIGHT SHUTOFF
- REPLACEABLE DISC FOR INEXPENSIVE MAINTENANCE

**= ZERO EMISSIONS, ZERO SEAT LEAKAGE, LOW MAINTENANCE**



**MODEL 350EC15**

STRAIGHT WAY / PROTECTED BELLOWS

**STANDARD MATERIALS OF CONSTRUCTION**

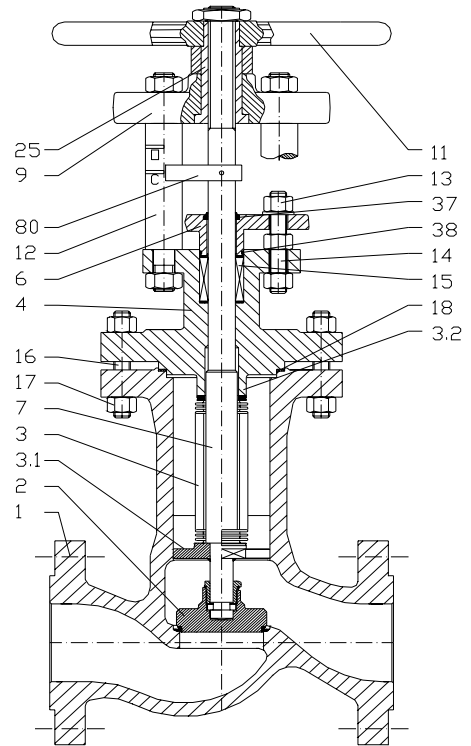
FIG. NO. 350EC15 / ...

**OPTIONS**

OTHER MATERIALS PER CUSTOMER  
REQUIREMENTS ARE AVAILABLE!

**NOTES**

PHÖNIX RESERVES THE RIGHT TO CHANGE  
PRODUCT DESIGN AND SPECIFICATION WITHOUT NOTICE!



**MATERIALS**

ITEM	PART NAME	LOW TEMP. CARBON STEEL -40°C up to 120°C	LOW TEMP. CARBON STEEL -40°F up to 248°F
1	BODY	1.1138	A352 LCC
	SEAT OVERLAY	STELLITE 21 (≈ 32HRC)	STELLITE 21 (≈ 32HRC)
2	DISC	1.4571 / 1.0566	A479 316Ti / A350 LF2
	OVERLAY	STELLITE 6 (≈ 42HRC)	STELLITE 6 (≈ 42HRC)
3	BELLOWS	2.4819 <sup>1)</sup>	HASTELLOY C-276 <sup>1)</sup>
3.1	GUIDE RING	2.4819 <sup>1)</sup>	HASTELLOY C-276 <sup>1)</sup>
3.2	RING	2.4819 <sup>1)</sup>	HASTELLOY C-276 <sup>1)</sup>
4	BONNET	1.0566 / 1.1138	A350 LF2 / A352 LCC
6	GLAND FOLLOWER	1.5638	A352 LC3
7	LOWER STEM	1.4571 <sup>2)</sup>	A479 316Ti <sup>2)</sup>
9	BRIDGE	1.4541	AISI F321
11	HANDWHEEL	CAST IRON	CAST IRON
12	PILLAR	1.4057	AISI 431
13	HEX. NUT	A194 GR. 4	A194 GR. 4
14	STUD BOLT	A320 GR. L7	A320 GR. L7
15	PACKING	PTFE-RINGS	PTFE-RINGS
16	STUD BOLT	A320 GR. L7	A320 GR. L7
17	HEX. NUT	A194 GR. 4	A194 GR. 4
18	GASKET	KAMMPROFIL / PTFE	KAMMPROFIL / PTFE
25	BUSHING	1.0718 / QPQ nitrided	A29 12L13 / QPQ nitrided
37	WIPER	EPDM	EPDM
38	O-RING	EPDM	EPDM
80	POSITION INDICATOR	1.4571	AISI 316TI

<sup>1)</sup> TRIM MATERIAL 1.4571 / 316TI OPTIONAL

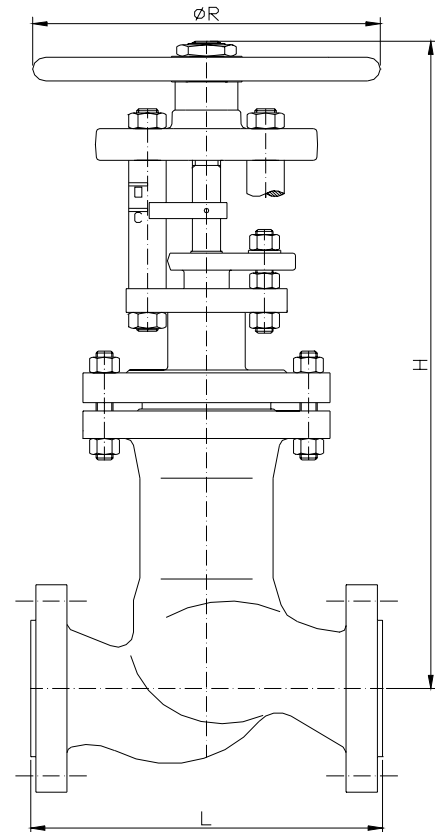
<sup>2)</sup> STEM MATERIAL 2.4819 / HASTELLOY C-276 OPTIONAL

**FIG. NO. 350EC15 / ...**
**TESTING / MARKING**

- TEST AND DESIGN ACC. TO GEST 89/140, GEST 86/128, GEST 86/129
- TÜV APPROVED STRENGTH CALCULATION ACC. TO DIN EN12516-2  
AVAILABLE FOR BODY & BONNET
- STANDARD TESTS ACC. TO DIN EN12266, ISO 5208, RESISTANCE AND  
LEAK TEST ACC. TO ITEM BA/BQ
- LEAK TEST ON CLOSURE ACC. TO ITEM BO/BN (LEAKAGE RATE 1 = TIGHT)
- ASME B16.34 / MSS SP 61 / API 598 / BS 6755

**PRESERVATION**

- DRYING AT A TEMPERATURE OF 120°C (248°F) FOR AT LEAST 3 HOURS
- STUFFING OF DRYING AGENTS (SILICAGEL) INTO THE VALVE
- BLANKING OF INLET AND OUTLET ORIFICE WITH SUITABLE GASKETS  
AND BOLTED FLANGES TO AVOID ENTRY OF MOISTURE INTO THE VALVE
- DISC SECURED IN CLOSED POSITION
- UNFINISHED SURFACES PROTECTED AGAINST RUST
- LUBRICATION WITH CHLOROFLUORINATED GREASE


**DIMENSIONS & WEIGHTS & FLOW COEFFICIENTS**

DN	NPS	UNIT	L DIN	L RF ASME GLOBE	L RF ASME BALL	H	ØR	WEIGHT	Kv [m³/h] CV [USGal/min]
65*	2 1/2" *	[MM] [IN]	290 11.4			470 18.5	200 7.9	35 kg 77 lbs	78 90.7
80	3"	[MM] [IN]	310 12.2	318 12.5	282 11.12	685 27	250 9.8	63 kg 139 lbs	113 131
100	4"	[MM] [IN]	350 13.8	356 14	305 12	745 29.3	315 12.4	100 kg 220 lbs	179 208
125	5" *	[MM] [IN]	400 15.7			802 31.6	350 13.8	145 kg 319 lbs	256 298
150	6"	[MM] [IN]	480 18.9	444 17.5	403 15.88	1004 39.5	400 15.7	205 kg 451 lbs	405 471
200*	8" *	[MM] [IN]	600 23.6	559 22	502 19.75	1178 46.4	500 19.7	370 kg 814 lbs	693 806
250*	10" *	[MM] [IN]	730 28.7	622 24.5	568 22.38	1367 53.8	500 19.7	700 kg 1540 lbs	1047 1217
300*	12" *	[MM] [IN]	850 33.5	711 28	648 25.5	1500 59.1	630 24.8	950 kg 2090 lbs	1460 1698
350*	14" *	[MM] [IN]	980 38.6	982 38.7	762 30	1800 70.9	720 28.3	1300 kg 2860 lbs	1780 2070

\* THESE NOMINAL WIDTHS ARE NOT INCLUDED IN GEST 89/140, CONSTRUCTION AND MATERIAL IN ACC. WITH GEST 89/140

- OTHER SIZES ON REQUEST

**PHÖNIX - POLE POSITION IN BELLOWS SEALED TECHNOLOGY**

PHÖNIX WAS ESTABLISHED AT THE BEGINNING OF LAST CENTURY IN 1910 IN FRANKFURT, GERMANY AS SMALL, PRIVATELY OWNED COMPANY. SINCE 1955 PHÖNIX IS WIDELY KNOWN FOR ITS HIGH QUALITY BELLOWS SEALED VALVES FOR SEVERE HAZARDOUS CHEMICAL SERVICES.



THROUGHOUT THE NEARLY ONE HUNDRED YEARS OF ITS EXISTENCE, PHÖNIX HAS ALWAYS STRIVEN TO DEVELOP A PRODUCT LINE EXCEEDING EVEN THE MOST STRINGENT REQUIREMENTS OF THE INDUSTRY.

PHÖNIX OFFERS A COMPLETE LINE OF HIGH QUALITY, FIRST CLASS PRODUCTS THAT GUARANTEE LONG LASTING SAFETY AND RELIABILITY IN OUR CUSTOMERS' PLANTS.



GLOBALLY, PHÖNIX OFFERS ITS CUSTOMERS VALVES CONFIRMING TO NATIONAL AND INTERNATIONAL DESIGN STANDARDS SUCH AS DIN, ASME, GOST ETC. IN ADDITION PHÖNIX OFFERS TECHNICAL ADVICE AND SERVICE FOR COMPLETE VALVE PACKAGES. TOGETHER WITH OUR QUALIFIED ENGINEERING STAFF AND STATE OF THE ART MANUFACTURING FACILITY, WE PROVIDE HIGH QUALITY PRODUCTS TO ENSURE A LONG VALVE LIFETIME WITH HIGH PLANT SAFETY.