

Flanges

Detachable, pressure-tight connections for industrial piping systems

Types: Weld Neck (WN) · Slip-On (SO) · Blind (BL) · Threaded (TH) · Lap Joint (LJ) · Socket Weld (SW)

Standards: EN 1092-1/-2 · ASME B16.5 / B16.47 / B16.48

Pressure ratings: PN 2.5 – PN 400 · Class 150 – Class 2500

Nominal sizes: DN 10 – DN 2000 · NPS ½" – NPS 60"

Materials: Carbon steel · low-temp steel · high-temperature steels · stainless · duplex · super duplex · nickel-based

Test certificates: EN 10204 type 3.1 / 3.2 · NDT on request · external inspection available

Certifications: ISO 9001 · AD 2000 · ISO 19443 (nuclear)

1 Product Overview

Nirotec supplies flanges for industrial piping systems to international standards and project-specific requirements. Flanges provide detachable, pressure-tight connections between pipelines, valves and equipment.

Available flange types

Type	Short name	Typical application	Standard
Weld neck flange	WN	High-pressure, high-temperature, safety-critical	EN 1092-1 Type 11 / ASME B16.5
Slip-on flange	SO	General process piping, lower pressures	EN 1092-1 Type 01 / ASME B16.5
Blind flange	BL	Line closure, inspection access	EN 1092-1 Type 05 / ASME B16.5
Threaded flange	TH	Small bore, non-weldable materials	EN 1092-1 Type 13 / ASME B16.5
Lap joint flange	LJ	Interchangeable connections, special cases	EN 1092-1 Type 02 / ASME B16.5
Socket weld flange	SW	Small bore DN ≤ 50	ASME B16.5

2 Dimensions & Pressure Ratings

To EN 1092-1

Feature	Range / value
Nominal sizes DN	DN 10 – DN 2000 (larger on request)
Pressure ratings (PN)	PN 2.5 · PN 6 · PN 10 · PN 16 · PN 25 · PN 40 · PN 63 · PN 100 · PN 160 · PN 250 · PN 320 · PN 400
Facing types	Type A (flat) · Type B (raised face) · Type C (groove) · Type D (tongue) · Type E (ring groove) · Type F (narrow ring groove)
Flange types	Type 01 (slip-on) · Type 05 (blind) · Type 11 (weld neck) · Type 13 (threaded)

To ASME B16.5 / B16.47

Feature	Range / value
Nominal sizes NPS	NPS ½" – NPS 24" (B16.5) · NPS 26" – NPS 60" (B16.47)
Pressure classes	Class 150 · Class 300 · Class 600 · Class 900 · Class 1500 · Class 2500
Facing types	RF (Raised Face) · FF (Flat Face) · RTJ (Ring Type Joint)
Series (B16.47)	Series A (MSS SP-44) · Series B (API 605)

3 Materials

Flanges are supplied from various material groups depending on process media, temperature, pressure and corrosion requirements.

Material group	Typical materials (EN)	Typical materials (ASME/ASTM)	Application
Carbon / low-alloy steel	P250GH · P265GH · P280GH	A/SA 105 · A/SA 350 LF2	General pressure piping up to ~400°C
High-temperature steels	13CrMo4-5 · 10CrMo9-10 · X10CrMoVNb9-1	A/SA 182 F11 · F22 · F91	High-temperature up to 650°C, power plants
Austenitic stainless steel	1.4307 · 1.4404 · 1.4541 · 1.4571	A/SA 182 F304L · F316L · F321 · F316Ti	Corrosive media, chemical, pharma
Duplex / super duplex	1.4462 · 1.4410 · 1.4501	A/SA 182 F51 · F53 · F55	Chloride-bearing media, offshore
Nickel-based alloys	2.4819 (C-276) · 2.4858 (825) · 2.4360 (Monel)	A/SA 182 special grades	Extreme corrosion, high temperatures
Low-temperature steels	P265NL · P355NL	A/SA 350 LF2 · A/SA 182 F304L	Down to -60°C / -196°C (austenitic)

4 Standards & Codes

Standard / code	Title / application
EN 1092-1	Flanges and their joints – round flanges for pipes, valves and fittings – PN designated
EN 1092-2	Flanges – cast iron flanges
ASME B16.5	Pipe Flanges and Flanged Fittings – NPS ½ through NPS 24
ASME B16.47	Large Diameter Steel Flanges – NPS 26 through NPS 60
ASME B16.48	Line Blanks
EN 10253-2	Butt-welding pipe fittings – alloyed steels
AD 2000-W7	Bolted flange connections (German pressure vessel code)
PED 2014/68/EU	European Pressure Equipment Directive
DIN EN ISO 9001	Quality Management System Nirotec (certified)

5 Quality Inspection & Documentation

All flanges are inspected and documented within our quality management system per DIN EN ISO 9001.

Inspection	Standard / method	Availability
Visual inspection	EN ISO 17637	Standard
Dimensional inspection	EN 1092-1 / ASME B16.5	Standard
PMI (material verification)	XRF / OES	On request
Ultrasonic testing (UT)	EN ISO 10893 / ASME	On request
Magnetic particle testing (MT)	EN ISO 9934	On request
Liquid penetrant testing (PT)	EN ISO 3452	On request
Third-party inspection	TÜV · SGS · Bureau Veritas · client inspector	On request
Test certificate	EN 10204 type 3.1 or 3.2	Standard

6 Nirotec as Project Supplier

We supply flanges as a stand-alone item or as part of a complete pipe fittings package – together with elbows, tees, reducers and caps, uniformly documented and from a single source.

Your benefit: One contact for all pipe fittings within your project – no coordination effort between multiple suppliers.

7 Inquiry & Contact

For a project-specific enquiry, please provide:

- Standard and type (e.g. EN 1092-1 Type 11 weld neck or ASME B16.5 WN)
- Nominal size DN / NPS, pressure rating PN / Class
- Material (EN designation or ASME grade)
- Facing type (e.g. RF, FF, RTJ)
- Quantity, required delivery date and documentation (3.1 / 3.2 / third-party inspection)

Nirotec GmbH & Co. KG

Otto-Hahn-Str. 4 · 59423 Unna · Germany

Tel.: +49 (0) 2303 / 985-0 · info@nirotec.de · www.nirotec.de