M21ECFi4 Food + Reduced Bore Ball Valve DN15 to DN100 Flanged PN40

Description

The M21ECFi4 is a reduced bore ball valve with a single piece body, having ISO mounting as standard. It was designed and manufactured specially for Steam and Condensate applications to be used as an isolating valve, not a control valve. The valve complies with EC1935:2004 Food Contact Materials and its plastic materials and articles intended to come into contact with Food compliy with EC10:2011.
It also complies with regulation EC2023:2006 on good manufacturing practice for materials and articles intended to come into contact with food.

Standards

This product complies with the requirements of the EU Pressure Equipment Directive 2014/68/EU/UK Pressure Equipment (Safety) Regulations and carries the CE / UKCA mark when so required.

Certification

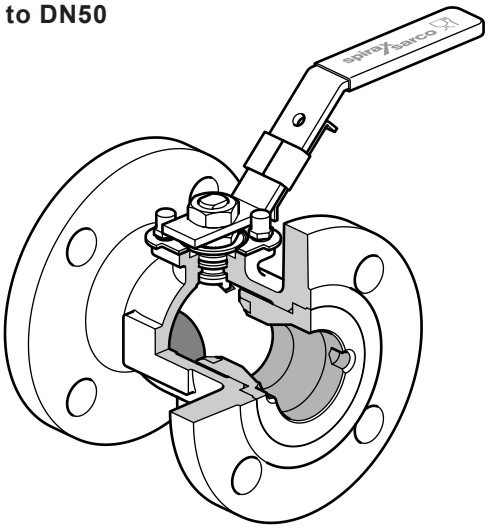
This product comes as standard with a certification package, which contains the following certificates and Declarations of Compliance:

- EN 10204 3.1 material certificates for all wetted parts (including seats and seals)
- EC1935:2004 Materials and Articles Intended to come into Contact with Food
- EC2023:2006 Good Manufacturing Practice for Materials and Articles Intended to come into Contact with Food
- EC10:2011 Plastic Materials and Articles Intended to come into Contact with Food

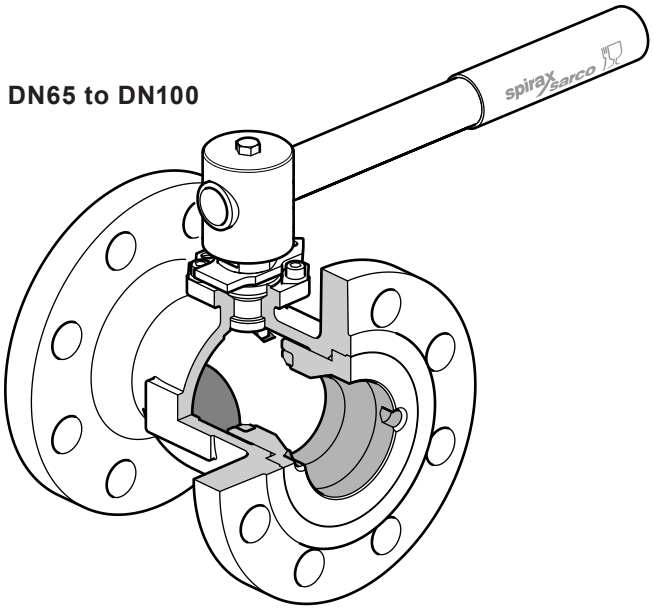
The material for the seals is compliant with:

- FDA CFR Title 21. Paragraph 177. 1550.

DN15 to DN50



DN65 to DN100



Packaging
Each valve is end capped and sealed in a plastic bag to avoid the ingress of dirt and other contaminants and packed in a cardboard box.

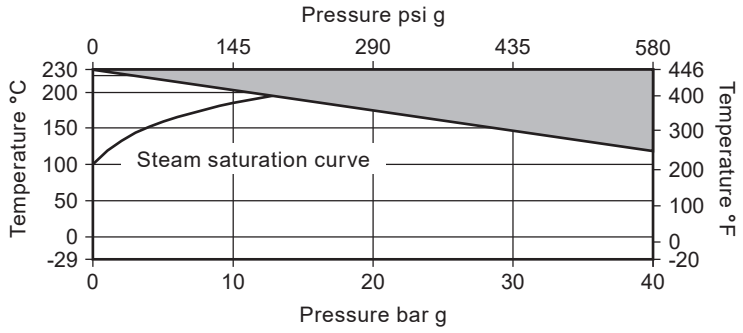
Sizes and pipe connections
DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80 and DN100
Standard flange: EN 1092 PN40
Face-to-face dimensions:

- DN15 to DN100 according to DIN 3202 F4.

Technical data

Flow characteristic	Modified linear
Port	Reduced bore
Leakage test procedure to ISO 5208 (Rate A)/EN 12266-1 (Rate A)	

Pressure/temperature limits

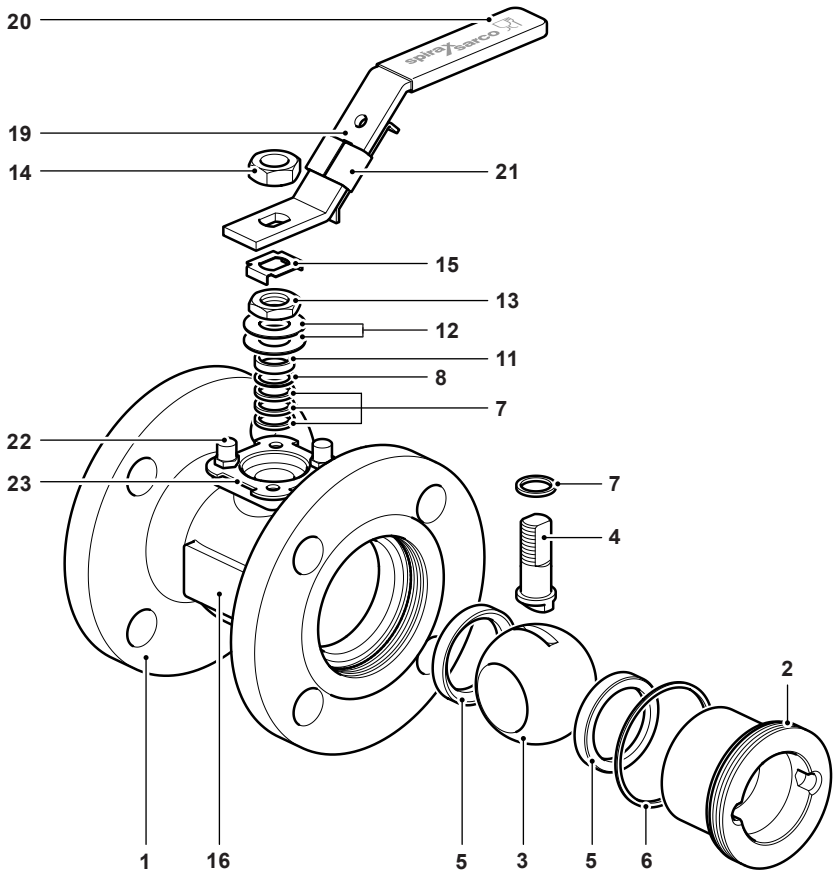


The product **must not** be used in this region.

Body design conditions			PN40
PMA	Maximum allowable pressure	40 bar g @ 120 °C	580 psi g @ 248 °F
TMA	Maximum allowable temperature	230 °C @ 0 bar g	446 °F @ 0 psi g
Minimum allowable temperature		-29 °C	-20 °F
PMO	Maximum operating pressure for saturated steam service	12 bar g	174 psi g
TMO	Maximum operating temperature	230 °C @ 0 bar g	446 °F @ 0 psi g
Minimum operating temperature **Note:** For lower operating temperatures consult Spirax Sarco.		-29 °C	-20 °F
ΔPMX	Maximum differential pressure is limited to the PMO		
Designed for a maximum cold hydraulic test pressure of:		60 bar g	870 psi g

Materials

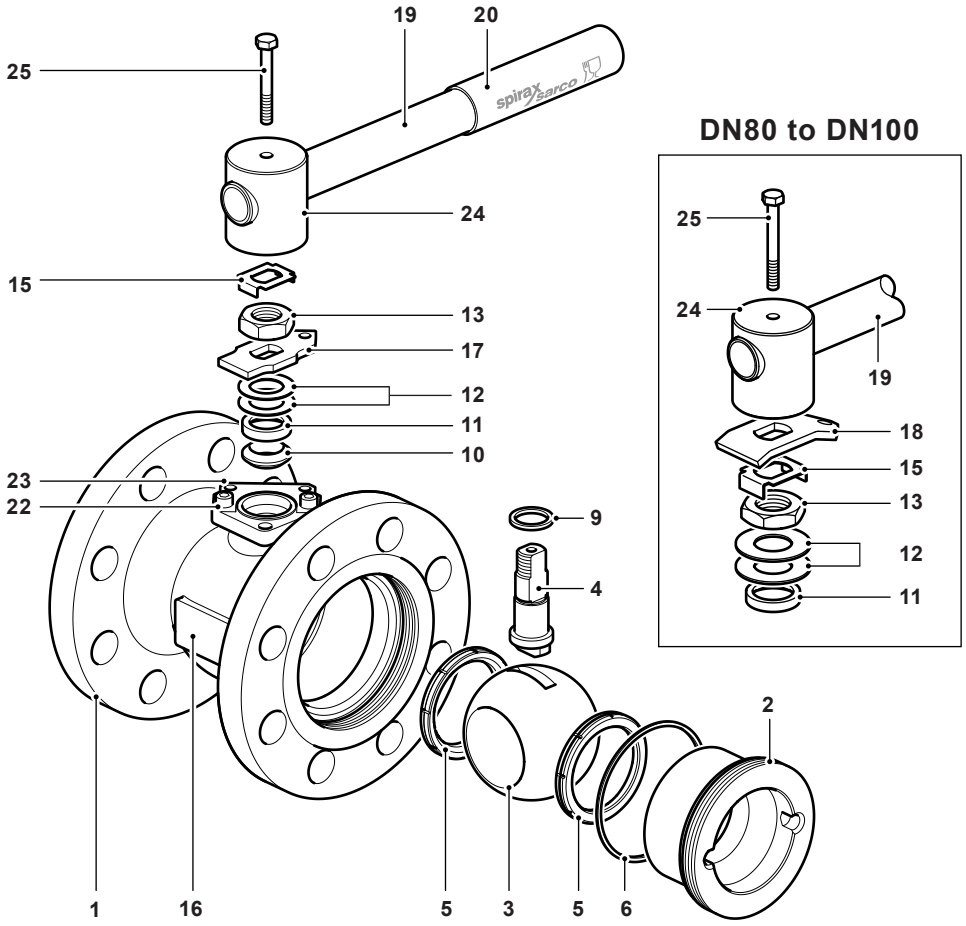
DN15 to DN50



No.	Part	Material	
1	Body	Stainless steel	ASTM A351 CF8M
2	Insert	Stainless steel	AISI 316 / ASTM A351 CF8M
3	Ball	Stainless steel	AISI 316
4	Stem	Stainless steel	AISI 316
5	Seat	R-PTFE	20% PEEK Reinforced
6	Insert seal	Virgin PTFE TFM 1600	
7	Stem seal	Virgin PTFE TFM 1600	
8	Stem seal	Stainless steel	AISI 304
11	Separator	Stainless steel	AISI 316
12	Belleville washer	Stainless steel	AISI 301
13	Gland nut	Stainless steel	AISI 316
14	Upper stem nut	Stainless steel	AISI 316
15	Locking plate	Stainless steel	AISI 304
16	Nameplate	Stainless steel	AISI 430
19	Lever	Stainless steel	AISI 316
20	Grip	Vinyl	
21	Handle lock	Stainless steel	AISI 304
22	Stop screw	Stainless steel	AISI 304
23	Lock plate	Stainless steel	AISI 304L

Materials

DN65

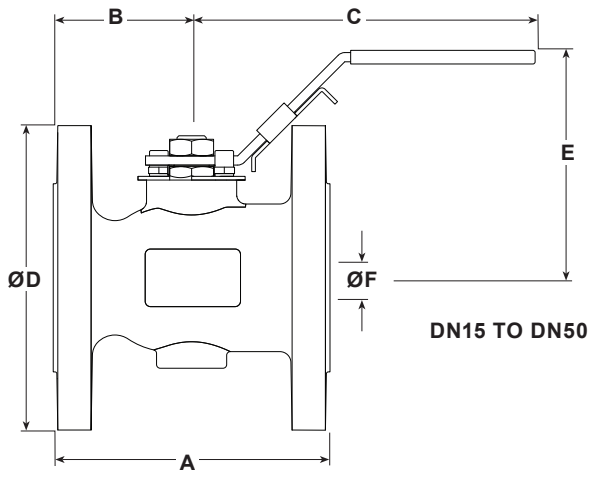


No.	Part	Material	
1	Body	Stainless steel	ASTM A351 CF8M
2	Insert	Stainless steel	AISI 316 / ASTM A351 CF8M
3	Ball	Stainless steel	AISI 316
4	Stem	Stainless steel	AISI 316
5	Seat	R-PTFE	20% PEEK Reinforced
6	Insert seal	Virgin PTFE TFM 1600	Geothermal
9	Lower stem seal	Virgin PTFE TFM 1600	
10	Upper stem packing	Virgin PTFE TFM 1600	
11	Separator	Stainless steel	AISI 316
12	Belleville washer	Stainless steel	AISI 301
13	Gland nut	Stainless steel	AISI 316
15	Locking plate	Stainless steel	AISI 304
16	Nameplate	Stainless steel	AISI 430
17	Stop plate with indicator DN65	Stainless steel	AISI 316 / AISI 304
18	Stop plate with indicator DN80 and DN100	Stainless steel	AISI 316 / AISI 304
19	Lever	Stainless steel	AISI 316
20	Grip	Vinyl	
22	Stop screw	Stainless steel	AISI 304
23	Lock plate	Stainless steel	AISI 304L
24	Adaptor	Stainless steel	AISI 316
25	Adaptor Screw	Stainless steel	AISI 316

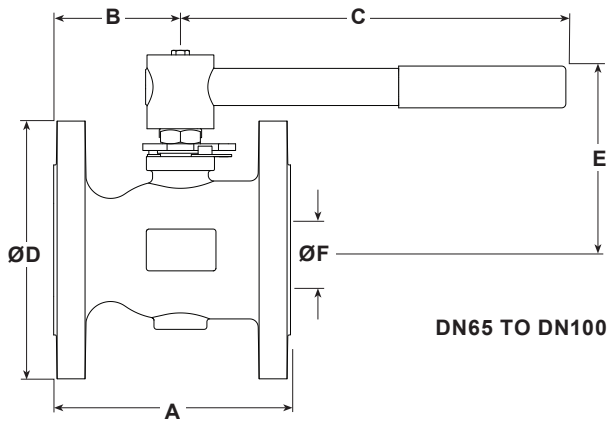
Dimensions/weights (approximate) in mm and kg

PN40 DIN 3202 F4 flanges

Size	A	B	C	D	E	F	Weight
DN15	115	57	162	95	95	13	2.5
DN20	120	60	162	105	95	13	3.2
DN25	125	62	162	115	101	19	4.0
DN32	130	65	182	140	106	25	5.5
DN40	140	70	186	150	118	30	6.9
DN50	150	75	186	165	123	37	9.3
DN65	170	79	278	185	144	50	13.4
DN80	180	91	417	200	157	57	17.7
DN100	190	98	517	235	172	75	25.0



DN15 TO DN50



DN65 TO DN100

Kv values

DN	15	20	25	32	40
Kv	10	10	30	40	81

DN	50	65	80	100
Kv	103	197	248	581

For conversion
Cv (UK) = Kv x 0.963
Cv (US) = Kv x 1.156

Operating torque (N m)

DN	15	20	25	32	40
N m	8	8	15	21	30

DN	50	65	80	100
N m	35	50	80	120

Note: The torque figures shown are for a valve that is frequently operated at the maximum operating pressure. Valves that are subject to long static periods, may require a greater break-out torque.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions supplied with the product (IM-P798-01).

Welding

Only the models that have connections designed for welding (SW, BW, Imperial Tube connections) should be welded. Valves with flanged connections must not be welded to avoid damages to the valve and/or injury to personnel.

How to order

1 off Spirax Sarco DN50 M21ECFi4 ball valve having flanged EN 1092 PN40 connections.

Optional extras:

- Extended stems to allow full insulation: 50 mm for DN15 to DN50 sizes and 100 mm for DN15 to DN50 sizes.
- 100 mm extended stem with lockable handle for DN15 to DN50 sizes.

Spare parts

DN15 to DN50

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

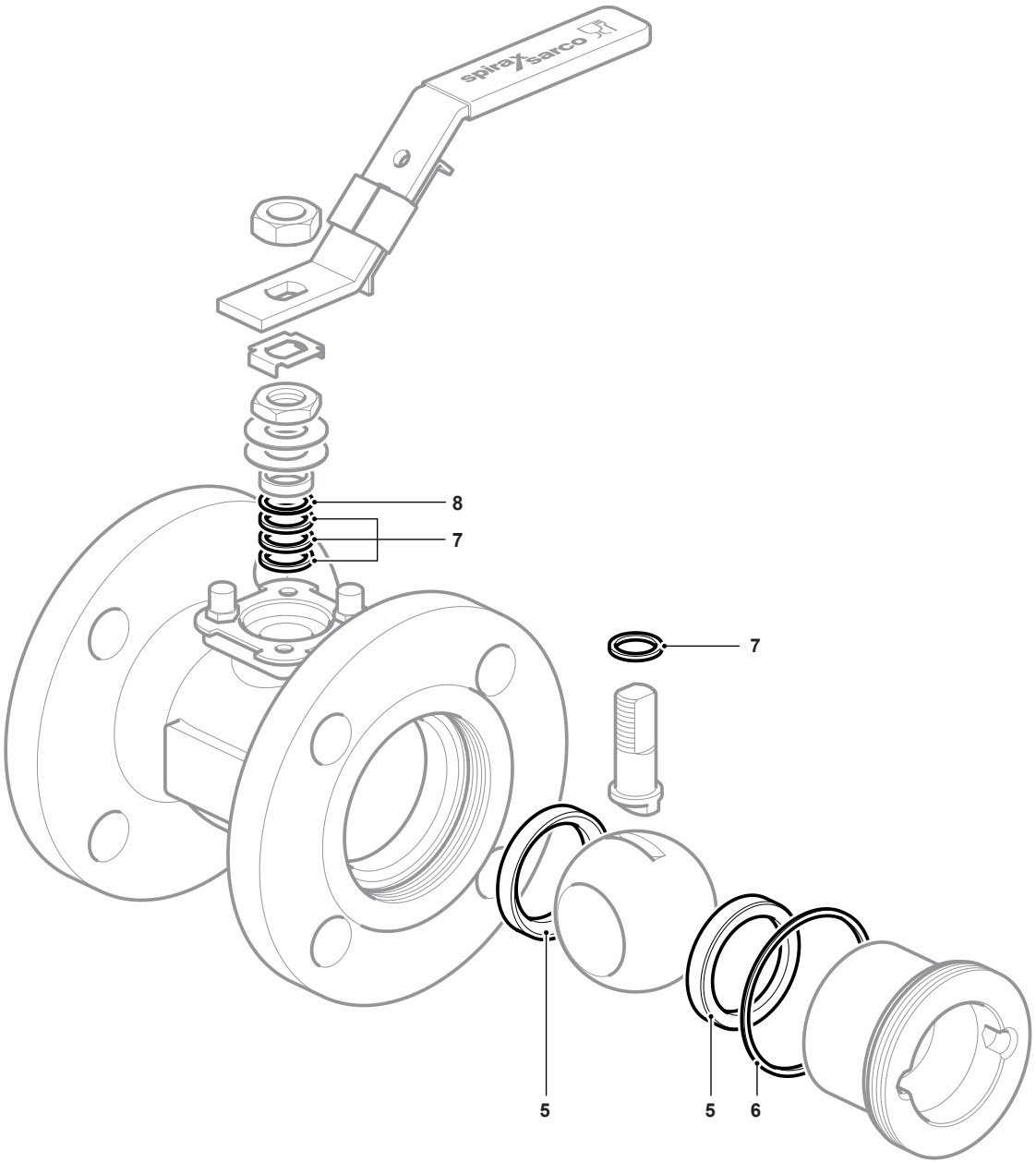
Available spares

Seats, insert seal and stem seals	**5, 6, 7, 8**

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of ball valve.

Example: 1 set of seats, insert seal and stem seals for a Spirax Sarco DN50 flanged PN40 M21ECFi4 ball valve.



DN15 to DN50

Spare parts

DN65 to DN100

The spare parts available are shown in solid outline. Parts drawn in grey line are not supplied as spares.

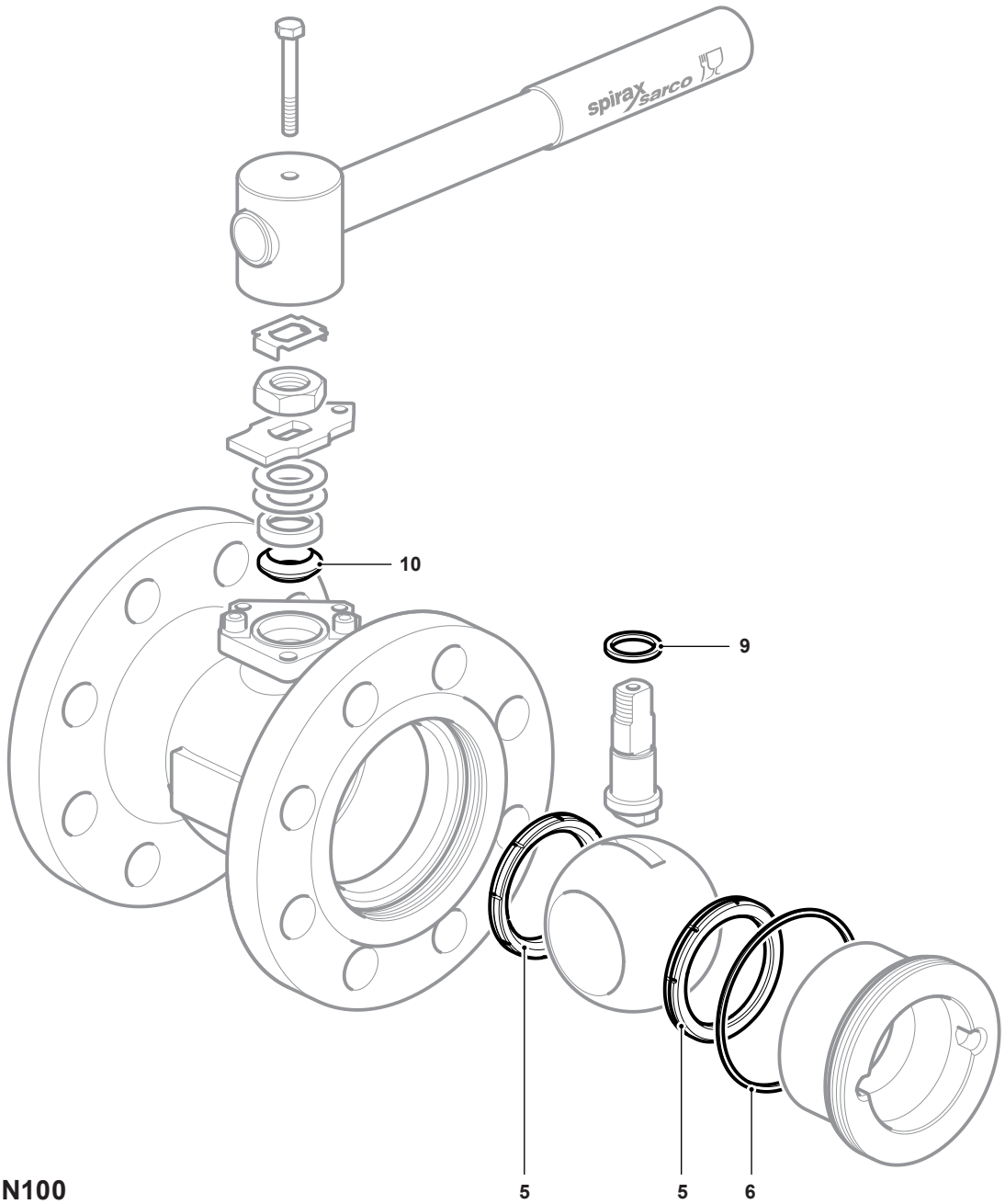
Available spares

Seats, insert seal, lower stem seals and upper stem packing	**5, 6, 9, 10**

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of ball valve.

Example: 1 set of seats, insert seal, lower stem seals and upper stem packaging for a Spirax Sarco DN80 flanged PN40 M21ECFi4 ball valve.



DN65 to DN100