



№	TECHNICAL CHARACTERISTICS/ ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ	PHOTO/ФОТО
VALVES		
1	VBA,2,CL600,FL,RB,LTCS,316,VBA6530 Valves, Ball Nominal size 2 in Design spec, pressure rating CL 600 Design spec API 6D Design spec, f to f (e to e) API 6D Type of end connection FLANGED Type of face RING TYPE JOINT Type of closure member TRUNNION MOUNTED BALL Type of bore REDUCED Type of construction SPLIT, THREE PIECE BODY OR TOP ENTRY Type of seat METAL TO METAL Uni/bi-directional BI-DIRECTIONAL Service(s) HYDROCARBON, GLYCOL, WELLFLUID Temperature, min -40 °C Temperature, max +340 °C Special requirements ANTI-BLOWOUT STEM ANTI-STATIC DBB POSITION INDICATOR FIRE SAFE Mat, body LOW TEMPERATURE CARBON STEEL Mat, trim CRA / STAINLESS STEEL 316 Mat, seals GRAPHITE Mat spec, body ASTM A350 GRADE LF2 CLASS 1 ASTM A352 GRADE LCC Mat spec, bonnet ASTM A350 GRADE LF2 Mat spec, cover ASTM A350 GRADE LF2 Mat spec, bolts/studs ASTM A320 GRADE L7M Mat spec, nut(s) ASTM A194 GRADE 7M Design spec,	

pressure	ASME B16.34 Design spec, end
flange	ASME B16.5 Mat, bonnet/cover
LOW TEMPERATURE CARBON STEEL Mat,	
stem/turnnion/pin	CORROSION
RESISTANT ALLOY Mat, disc/plate/ball	
TUNGSTEN / CHROMIUM CARBIDE	
STAINLESS STEEL 316 Mat, seat insert	
STAINLESS STEEL 316 Mat, spring	
ELGILOY Mat, gasket	STAINLESS
STEEL 316 Mat, filler	GRAPHITE
Type, operation	LEVER Length, lever
450 mm (MAX) Height, lever	100 /
150 mm (MIN/MAX) Fire safe design	
API 6FA Mat traceability certification EN	
10204 3.1.B (PRESSURE PART)	
EN 10204 2.2 (TRIM) Valve datasheet number	
VBA6530	



2	VBA,3,150,FL,FB,LTCS,UNS,VBA1110/A02 Valves, Ball Nominal size 3 in Design spec, pressure rating CL 150 Design spec API 608 API 6D ASME BS 5351 Design spec, f to f (e to e) ASME B16.10 Type of end connection FLANGED Type of face RAISED FACE Type of pattern LONG Type of closure member FLOATING BALL Type of bore FULL Type of construction SPLIT OR THREE PIECE BODY Uni/bi-directional BI-DIRECTIONAL Service(s) HYDROCARBON, GLYCOL, METHANOL PRODUCED WATER, AMINE SOUR WELL FLUID Mat requirement, sour service NACE MR-01-75 Temperature, min -40 °C Temperature, max +200 °C Special requirements ANTI-BLOWOUT STEM ANTI-STATIC, FIRE SAFE POSITION INDICATOR Mat, body LOW TEMPERATURE CARBON STEEL Mat, trim UNS S20910 Mat spec, body ASTM A352 GRADE LCC Mat spec, bonnet ASTM A352 GRADE LCC Mat spec, cover ASTM A352 GRADE LCC Mat spec, stem UNS S20910 Mat spec, trunnion UNS S20910 Mat spec, spring(s) UNS R30003 Mat spec, static primary seal FILLED PTFE Mat spec, static sec seal	
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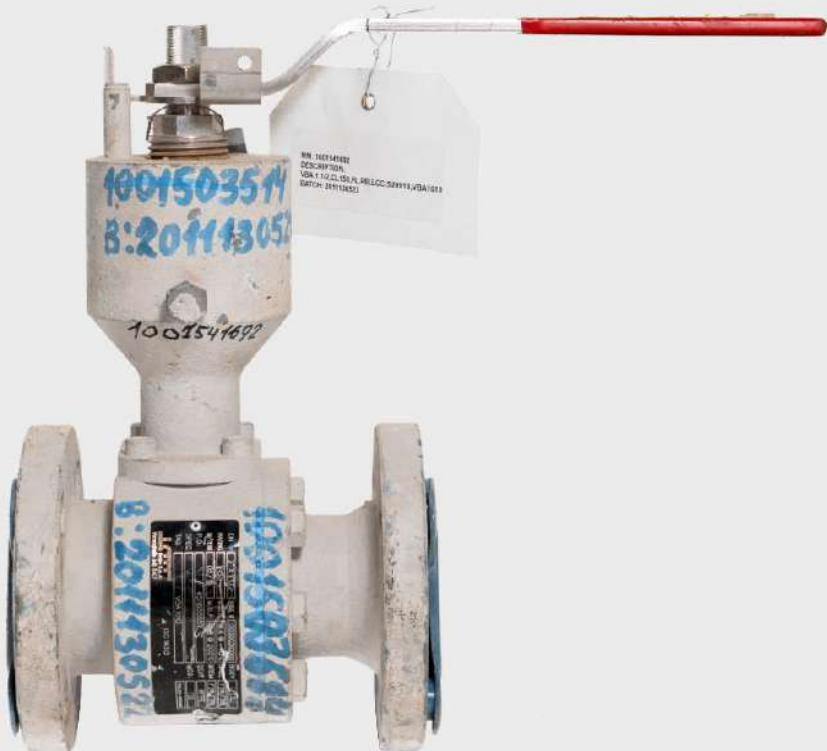
3 VBA,3,300,FL,FB,AL625,AL625,VBA3117/A02
Valves, Ball Nominal size 3 in
Design spec, pressure rating CL 300 Design spec
spec API 608
API 6D BS 5351 Design spec, f to f (e to e) ASME B16.10 Type of end connection FLANGED Type of face RAISED FACE Type of pattern LONG Type of closure member FLOATING BALL Type of bore FULL Type of construction SPLIT OR THREE PIECE BODY Uni/bi-directional BI-DIRECTIONAL Service(s) HYDROCARBON, LP CONDENSATE PRODUCED WATER SOUR Mat requirement, sour service NACE MR 01-75 Temperature, min -40 °C Temperature, max +200 °C Special requirements ANTI-BLOWOUT STEM ANTI-STATIC FIRESAFE ASTM A320 GRADE L7M Mat spec, nut(s) ASTM A194 GRADE 7M Design spec, pressure ASME B16.34 Design spec, end flange ASME B16.5 Finish, flange facing SMOOTH 125 TO 250 µin Mat, bonnet/cover NICKEL ALLOY INCONEL 625 Mat, stem/trunnion/pin NICKEL ALLOY INCONEL 625 Mat, disc/plates/ball NICKEL ALLOY INCONEL 625 Mat, seat insert POLYTETRAFLUOROETHYLENE Mat spec, pin ASTM B564 UNS N06625 Type, operation LEVER Length, lever 450 mm (MAX) Height, lever 100 / 150 mm (MIN/MAX) Fire safe design API 6FA



4	VBA,3,CL600,FL,FB,LTCS,316,VBA6130 Valves, Ball Nominal size 3 in Design spec, pressure rating CL 600 Design spec API 6D Design spec, f to f (e to e) API 6D Type of end connection FLANGED Type of face RING TYPE JOINT Type of closure member TRUNNION MOUNTED BALL Type of bore FULL Type of construction SPLIT OR THREE PIECE BODY Type of seat SOFT Uni/bi-directional BI- DIRECTIONAL Service(s) HYDROCARBON, GLYCOL WELL FLUID Temperature, min -40 °C Temperature, max +200 °C 7M Design spec, end flange ASME B16.5 Design spec, pressure ASME B16.34 Mat, bonnet/cover LOW TEMPERATURE CARBON STEEL Mat, stem/trunnion/pin CRA / STAINLESS STEEL 316 Mat, seat insert POLYTETRAFLUOROETHYLENE Mat spec, pin UNS S20910 Mat, disc/plate/ball STAINLESS STEEL 316 Type, operation LEVER Length, lever 450 mm (MAX) Height, lever 100 / 150 mm (MIN/MAX) Fire safe design API 6FA	
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5	VG,3in,CL300,FL,RF,LTCSS,SS,VG3070 Valves, Gate Design spec, end flanges ASME B16.5 Nominal size 3 in Design spec, pressure rating CL 300 Design spec API 600 Design spec, f to f (e to e) ASME B16.10 Type of end connection FLANGED Type of face RAISED FACE Type of closure member FLEXIBLE WEDGE DISC Type of construction OUTSIDE SCREW AND YOKE RISING STEM Type of bonnet/cover BOLTED Type of seat REPLACEABLE Service(s) STEAM Temperature, min -40 °C Temperature, max +340 °C Mat, body LOW TEMPERATURE CARBON STEEL Mat, trim STAINLESS STEEL Mat spec, body ASTM A352 GRADE LCC Mat spec, bonnet ASTM A352 GRADE LCC Mat spec, closure member ASTM A182 GRADE F316 Mat spec, stem ASTM A182 GRADE F316 Mat spec, seat facing STELLITE Mat spec, bolts/studs ASTM A320 GRADE L7M Mat spec, nut(s) ASTM A194 GRADE 7M Design spec, pressure ASME B16.34 Finish, flange facing SMOOTH 125 TO 250 µin Mat, bonnet/cover LOW TEMPERATURE CARBON STEEL Mat, stem/trunnion/pin STAINLESS STEEL Mat, closure member STAINLESS	
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6 VBA,1.1/2,CL150,FL,RB,LCC,S20910,VBA1010
Valves, Ball Nominal size 1.1/2 in
Design spec, pressure rating CL 150 Design
spec API 608
API 6D ASME BS 5351
Design spec, f to f (e to e) ASME B16.10 Type
of end connection FLANGED Type of face
RAISED FACE Type of pattern LONG
Type of closure member FLOATING BALL
Type of bore REDUCED Type of
construction SPLIT OR THREE PIECE
BODY Uni/bi-directional BI-
DIRECTIONAL Service(s)
HYDROCARBON, GLYCOL, METHANOL
PRODUCED WATER, AMINE
SOUR WELL FLUID Mat
requirement, sour service NACE MR-01-75
Temperature, min -40 °C Temperature,
max +200 °C Special requirements
ANTI-BLOWOUT STEM
ASTM A320 GRADE L7M Mat, body gasket
STAINLESS STEEL 316+GRAPHITE Type,
operation LEVER / BEVEL GEAR
Length, lever 450 mm (MAX) Height,
lever 100/150 mm (MIN/MAX) Fire
safe design API 6FA Mat traceability
certification EN 10204 3.1.B (PRESSURE PART)
EN 10204 2.2 (TRIM)



7	VG,3in,CL150,FL,RF,LTCS,SS,VG1060 Valves, Gate Design spec, end flanges ASME B16.5 Nominal size 3 in Design spec, pressure rating CL 150 Design spec API 600 Design spec, f to f (e to e) ASME B16.10 Type of end connection FLANGED Type of face RAISED FACE Type of closure member FLEXIBLE WEDGE DISC Type of construction OUTSIDE SCREW AND YOKE RISING STEM Type of bonnet/cover BOLTED Type of seat REPLACEABLE Service(s) FUEL GAS WATER, AIR, N2, FUEL OIL Temperature, min -40 °C Temperature, max +150 °C Mat, body LOW TEMPERATURE CARBON STEEL Mat, trim STAINLESS STEEL Mat spec, body ASTM A352 GRADE LCC Mat spec, bonnet ASTM A352 GRADE LCC Mat spec, closure member ASTM A182 GRADE F316 Mat spec, stem ASTM A182 GRADE F316 Mat spec, bolts/studs ASTM A320 GRADE L7M Mat spec, nut(s) ASTM A194 GRADE 7M Design spec, pressure ASME B16.34 Finish, flange facing SMOOTH 125 TO 250 µin Mat, bonnet/cover LOW TEMPERATURE CARBON STEEL Mat, stem/trunnion/pin STAINLESS STEEL 316	
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8 VBA,2,CL900,FL,FB,AL825,AL825,VBA9137
Valves, Ball Nominal size 2 in
Design spec, pressure rating CL 900 Design spec
spec API 6D Design spec, f to f (e to e) API 6D Type of end connection
FLANGED Type of face RING TYPE
JOINT Type of closure member
TRUNNION MOUNTED BALL Type of bore
FULL Type of construction SPLIT OR
THREE PIECE BODY Uni/bi-directional
BI-DIRECTIONAL Service(s)
HYDROCARBON, MP CONDENSATE
PRODUCED WATER, WELL FLUID
SOUR, WASTE WATER Mat requirement, sour service NACE MR 01-75 Temperature, min
-40 °C Temperature, max +200 °C
Special requirements ANTI-BLOWOUT
STEM ANTI-STATIC,
FIRESAFE POSITION
INDICATOR Mat, body NICKEL
ALLOY INCONEL 825 Mat, trim
NICKEL ALLOY INCONEL 825 Mat spec, body
ASTM B425 UNS N08825 Mat spec, bonnet
ASTM B425 UNS N08825 Mat spec, cover
ASTM B425 UNS N08825 Mat spec, closure member
ASTM B425 UNS N08825 Mat spec, stem
ASTM B425 UNS N08825 Mat spec, trunnion
ASTM B425 UNS N08825 Mat spec, bolts/studs
ASTM A320 GRADE L7M Mat spec, nut(s)
ASTM A194 GRADE 7M Design spec



"Valves, Gate

Design spec, end flanges ASME B16.5
Nominal size 6 in
Design spec, pressure rating CL 150
Design spec API 600
Design spec, f to f (e to e) ASME B16.10
Type of end connection FLANGED
Type of face RAISED FACE
Type of closure member FLEXIBLE
WEDGE DISC
Type of construction OUTSIDE SCREW
AND YOKE
RISING STEM
Type of bonnet/cover BOLTED
Type of seat REPLACEABLE
Service(s) FUEL GAS
WATER, AIR, N2, FUEL OIL
Temperature, min -40 °C
Temperature, max +150 °C
Mat, body LOW TEMPERATURE
CARBON STEEL
Mat, trim STAINLESS STEEL
Mat spec, body ASTM A352 GRADE
LCC
Mat spec, bonnet ASTM A352
GRADE LCC
Mat spec, closure member ASTM A182
GRADE F316
Mat spec, stem ASTM A182 GRADE
F316



VG,8in,CL600,FL,RJ,LTCS,SS,VG6070 Valves,
Gate Design spec, end flanges ASME
B16.5 Nominal size 8 in Design
spec, pressure rating CL 600 Design spec
API 600 Design spec, f to f (e to e) ASME
B16.10 Type of end connection
FLANGED Type of face RING TYPE
JOINT Type of closure member FLEXIBLE
WEDGE DISC Type of construction
OUTSIDE SCREW AND YOKE
RISING STEM Type of bonnet/cover
BOLTED Type of seat
REPLACEABLE Service(s) STEAM,
CONDENSATE Temperature, min -40
°C Temperature, max +340 °C Mat,
body LOW TEMPERATURE
CARBON STEEL Mat, trim
STAINLESS STEEL Mat spec, body
ASTM A352 GRADE LCC Mat spec, bonnet
ASTM A352 GRADE LCC Mat spec, closure
member ASTM A182 GRADE F316 Mat
spec, stem ASTM A182 GRADE
F316 Mat spec, seat facing STELLITE
Mat spec, bolts/studs ASTM A320



11	VBA,12x10in,CL600,FL,RB,LTCS,SS,VBA6030 Valves, Ball Nominal size 12 x 10 in Design spec, pressure rating CL 600 Design spec API 6D Type of end connection FLANGED Type of face RING TYPE JOINT Type of closure member TRUNION MOUNTED BALL Type of bore REDUCED Type of construction SPLIT OR THREE PIECE BODY Uni/bi-directional BI-DIRECTIONAL Mat requirement, sour service NACE MR 01-75 Special requirements ANTIBLOWOUT STEM ANTISTATIC, FIRESAFE Mat, body LOW TEMPERATURE CARBON STEEL Mat, trim STAINLESS STEEL + CRA Mat spec, body ASTM A350 GRADE LF2 ASTM A352 GRADE LCC Mat spec, bonnet ASTM A350 GRADE LF2 ASTM A352 GRADE LCC Mat spec, cover ASTM A350 GRADE LF2 ASTM A352 GRADE LCC Mat spec, closure member ASTM A350 GRADE F2 + CRA Mat spec, stem UNS S20910 Mat spec, trunnion UNS S20910 Mat spec, bolts/studs ASTM A320 GRADE L7M Mat spec, nut(s) ASTM A194 GRADE 7M Type BARE STEM Design spec, end flange ASME B16.5 Mat spec	
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12	VBA,10in,CL600,FL,RB,LF2,316,VBA6050 Valves, Ball Nominal size 10 in Design spec, pressure rating CL 600 Design spec API 6D Design spec, f to f (e to e) API 6D Type of end connection FLANGED Type of face RING TYPE JOINT Type of closure member TRUNNION MOUNTED BALL Type of bore REDUCED Type of construction SPLIT OR THREE PIECE BODY Type of seat SOFT Uni/bi-directional BI-DIRECTIONAL Service(s) HYDROCARBON, CLOSED DRAIN SOUR Mat requirement, sour service NACE MR 01-75 Temperature, min -40 °C Temperature, max +200 °C Special requirements ANTI-BLOWOUT STEM ANTI-STATIC DBB POSITION INDICATOR FIRESAFE Mat, body LOW TEMPERATURE CARBON STEEL Mat, trim CRA / STAINLESS STEEL 316 Mat, seals LIP SEAL Mat spec, body ASTM A350 GRADE LF2 Mat spec, bonnet ASTM A350 GRADE LF2 Mat spec, cover ASTM A350 GRADE LF2 Mat spec, closure member UNS S20910 Mat spec, stem UNS S20910 (XM-19 + ENP) Mat spec, trunnion UNS S20910 Mat spec, bolts/studs ASTM A320 GRADE L7M Mat spec, nut(s) ASTM A194 GRADE 7M Design pressure ASME B16.34	
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VLV,RLF,6x8in,28barg,FLG,\V Relief valves
Type of end connection FLANGED Type
PILOT OPERATED Pressure design, inlet
ASME CL 300 Pressure design, outlet
ASME CL 150 Facing, flange
RAISED FACE Mat, body TBA
Orifice, ref Q Set pressure
28 barg Size, inlet 6 in Size



14	"Valves, Gate
Design spec, end flanges	ASME B16.5
Nominal size	3 in
Design spec, pressure rating	CL 600
Design spec	API 600
Design spec, f to f (e to e)	ASME B16.10
Type of end connection	FLANGED
Type of face	RING TYPE JOINT
Type of closure member	FLEXIBLE WEDGE DISC
Type of construction	OUTSIDE SCREW AND YOKE
	RISING STEM
Type of bonnet/cover	BOLTED
Type of seat	REPLACEABLE
Service(s)	STEAM, CONDENSATE
Temperature, min	-40 °C
Temperature, max	+340 °C
Mat, body	LOW TEMPERATURE CARBON STEEL
Mat, trim	STAINLESS STEEL
Mat spec, body	ASTM A352 GRADE LCC
Mat spec, bonnet	ASTM A352 GRADE LCC
Mat spec, closure member	ASTM A182 GRADE F316
Mat spec, stem	ASTM A182 GRADE F316
Mat spec, seat facing	STELLITE
Mat spec, bolts/studs	ASTM A320 GRADE L7M
Mat spec, nut(s)	ASTM A194 GRADE 7M



15	"Relief valves Type of end connection FLANGED Type PRESSURE SAFETY Pressure desig, inlet CL 300 Pressure desig, outlet CL 150 Facing, flange RAISED FACE Mat spec, bonnet ASME SA216 GRADE WCB Mat spec, guide ASTM A297 GRADE HE SST Mat, body LOW TEMPERATURE CARBON STEEL / Mat spec, body ASME SA352 GRADE LCC Orifice, ref T / Set pressure 6 barg Size, inlet 8 in Size, outlet 10 in Temperature range -59 TO -30 °C Service requirement NACE LEVEL 2 Series JBS-E Mat, spring INCONEL 600 Mat, washer STAINLESS STEEL Additional information WITH BELLOWS Type, cap PACKED LIFTING LEVER WITH TEST ROD Facing flange, inlet RAISED FACE Facing flange, outlet RAISED FACE Mat, spindle STAINLESS STEEL 416 Mat, nozzle STAINLESS STEEL 316 Mat, nozzle ring STAINLESS STEEL 316 Mat, set screw STAINLESS STEEL 316 Mat, disc holder STAINLESS STEEL 316L Mat, retainer screw STAINLESS STEEL 316	
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Mat, o ring retainer 316	STAINLESS STEEL
Mat, spindle cotter pin	STAINLESS STEEL
Mat, spring washer	CARBON STEEL
Mat, adjusting bolt 316	STAINLESS STEEL
Mat, adjusting bolt and nut	STAINLESS STEEL 316
Mat, seal and wire	LEAD AND STAINLESS STEEL
Mat, thread cap	CARBON STEEL
Mat, set screw gasket	ORGANIC FIBER
NON ASBESTOS	
Mat, guide gasket	ORGANIC FIBER
NON ASBESTOS	
Mat, cab gasket	ORGANIC FIBER
NON ASBESTOS / Bellows	
INCONEL 625	
Retention clip	INCONEL X750

VLV,RLF,4x6in,20bar,FLG,LCC Relief valves
Type of end connection FLANGED Type
BALANCED BELLOWS Pressure desig, inlet
CL 300 Pressure desig, outlet CL 150
Facing, flange RAISED FACE Mat,
body LOW TEMPERATURE
CARBON STEEL Mat spec, body
ASTM A352 GRADE LCC Mat, trim
STELLITE, STAINLESS STEEL 316 Mat spec,
trim AISI 316 Orifice, ref
N Size, orifice 31.1 cm² Set
pressure 20 bar Size, inlet
4 in Size, outlet 6 in Temperature
range -36 TO +185 °C Mat, spring
AISI 316 Mat, bellows AISI 316



17	VALVE,RLF,TAI,3111-6Q8-S-L1U,6x8in Relief valves Model 3111-6Q8-S-L1U Type CONVENTIONAL Back pressure, variable 0.59 barg Temperature, max 185 °C Temperature, min -36 °C Temperature, relief 168 °C Pressure desig, inlet CL 150 Pressure desig, outlet CL 150 Facing, flange 125-250 AARH Mat spec, bolts/studs A320-L7M End connection in RAISED FACE End connection out RAISED FACE Mat spec, body ASTM A352 GRADE LCC Mat spec, trim AISI 316 + STEEL Orifice, ref Q Set pressure 6 barg Size, inlet 6 in Size, outlet 8 in Temperature range -36 TO +185 °C Service STEAM Mat spec, bolt(s) A164-7M (ZN Coated)	
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18

Flat gaskets

Type FLAT RING
Design spec ASME B16.21
Design spec, flange(s) ASME B16.5
Facing, flange RAISED FACE
Pressure designation CL 150
Thickness 1.5 mm
Mat COMPRESSED NON-
ASBESTOS FIBRE
Size, pipe, nominal 250 mm



19

Flat gaskets

Type FLAT RING
Design spec ASME B16.21
Design spec, flange(s) ASME B16.5
Facing, flange RAISED FACE
Pressure designation CL 150
Thickness 1.5 mm
Mat NITRILE BUTADIENE
RUBBER
Size, pipe, nominal 150 mm



Spiral wound gaskets

Design spec	ASME B16.20
Design spec, flange(s)	ASME B16.5
Pressure designation	CL 150
Mat, windings	NICKEL ALLOY
INCONEL 825	
Mat, filler	GRAPHITE
Mat, inner ring	NICKEL ALLOY
INCONEL 825	
Mat, centring ring	STAINLESS STEEL
316	
Mandatory add reqrmts	NACE MR0175
Size, pipe, nominal	50 mm



GSKT,SPW,AL20,316,316,CL150,1/2in Spiral
wound gaskets Design spec
ASME B16.20 Design spec, flange(s)
ASME B16.5 Service SOUR
Pressure designation CL 150 Thickness,
gasket 3.2 mm Mat, windings
ALLOY 20 Mat, filler GRAPHITE
Mat, inner ring STAINLESS STEEL
316 Mat, centring ring STAINLESS
STEEL 316 Mat spec, inner ring AISI
316 Mat spec, centring ring AISI 316
Mandatory add reqrmts NACE MR0175
Size, pipe, nominal 15 mm



Flat gaskets

Type	FLAT RING
Design spec	ASME B16.21
Design spec, flange(s)	ASME B16.5
Facing, flange	RAISED FACE
Pressure designation	CL 150
Thickness	2 mm
Mat	COMPRESSED NON-ASBESTOS FIBRE
Size, pipe, nominal	40 mm
Finish, facing flange	RA: 125 TO 250 µin



23	Valves, Check, Ball type
Nominal size	1.1/2 in
Design spec, pressure rating	CL 150
Design spec	BS 5352
Design spec, f to f (e to e)	ASME B16.10
Type of end connection	FLANGED
Type of face	RAISED FACE
Type of closure member	HORIZONTAL BALL
Type of construction	BOLTED COVER
	SPRING RETURN
Type of seat	REPLACEABLE
Uni/bi-directional	UNI-DIRECTIONAL
Service(s)	AMINE
	HYDROCARBON, GLYCOL, METHANOL
	SOUR
Mat requirement, sour service	NACE MR 01-75
Temperature, min	-40 °C
Temperature, max	+340 °C
Mat, body	STAINLESS STEEL
Mat, trim	STAINLESS STEEL
Mat spec, body	ASTM A182 GRADE F316
Mat spec, closure member	ASTM A182 GRADE F316
Mat spec, bolts/studs	ASTM A193 GRADE B8M
Mat spec, nut(s)	ASTM A194 GRADE 8M
Design spec, pressure	ASME B16.34
Design spec, end flanges	ASME B16.5
Finish, flange facing	SMOOTH 125 TO 250 µin
Mat, bonnet/cover	STAINLESS STEEL
Mat, closure member	STAINLESS STEEL
Mat, seat	METAL
Mat, seat facing	STELLITE



	Mat, springSTAINLESS STEEL 316 Mat spec, bonnet/coverASTM A182 GRADE F316 / Type, gasket SPIRAL WOUND Mat, gasketSTAINLESS STEEL 316 Mat, fillerGRAPHITE Mat traceability certification EN 10204 3.1.B (PRESSURE PART)/EN 10204 2.2 / ISO 10474(TRIM) Valve datasheet numberVC1015 CODE:G06 Certification: TYPE 3.1 AS PER EN 10204:2004 EAC CERTIFICATE	
24	Valves, Check, Swing type Nominal size1 in Design spec, pressure ratingPN40 Design specBS 5154 Design spec, f to f (e to e)BS 5154 Type of end connectionSCREWED x NPT FEMALE Type of closure memberSWING Service(s)FIREWATER WATER, SEA WATER, AIR, N2 Temperature, min-40 °C Temperature, max+100 °C Mat, bodyALUMINIUM BRONZE Mat, trimALUMINIUM BRONZE Mat spec, bodyASTM B148 GRADE C95200 Mat spec, coverASTM B148 GRADE C95200 Mat spec, closure memberASTM B148 GRADE C95200 Type, capSCREW CertificationEN 10204 2.2 / ISO 10474 (PRESSURE PARTS AND TRIM) Valve datasheet numberVC1040 Certification: TYPE 3.1 AS PER EN 10204:2004	

Valves, Check, Dual plate

Nominal size 3 in

Design spec, pressure rating CL 150

Design spec API 594

Design spec, end flanges ASME B16.5

Design spec, f to f (e to e) API 594

Type of end connection FLANGED

Type of face RAISED FACE

Type of closure member DUAL PLATE

Type of construction WAFER

Service(s) AIR,DEMIN.WATER
 AMINE,POTABLE WATER

HYDROCARBON,GLYCOL,METHANOL

Temperature, min -40 °C

Temperature, max +340 °C

Mat, body STAINLESS STEEL 316

Mat, trim STAINLESS STEEL

Mat spec, body ASTM A351 GRADE
CF8M

Mat spec, closure member ASTM A182
GRADE F316

Mat spec, hinge pin ASTM A182
GRADE F316

Design spec, pressure ASME B16.34

Finish, flange facing SMOOTH

Mat, bonnet/cover STAINLESS STEEL

Mat, closure member STAINLESS
STEEL

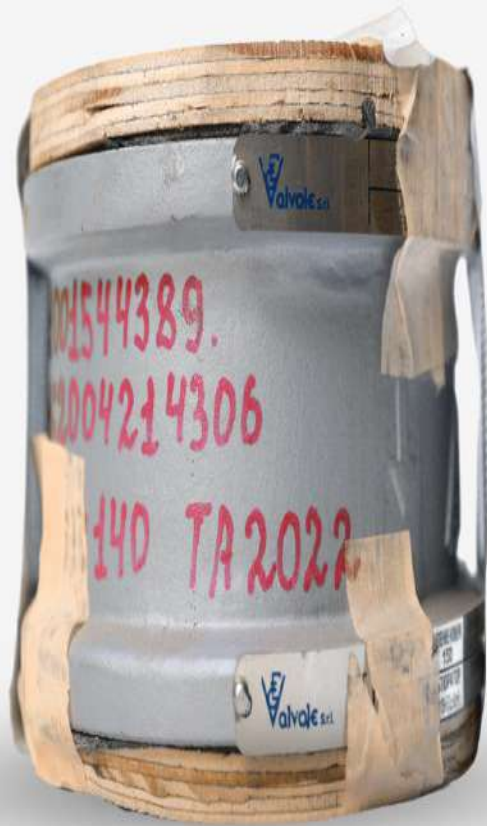
Mat, stem/trunnion/pin STAINLESS
STEEL

Mat spec, bonnet/cover ASTM A351
GRADE CF8M

Mat spec, stem/trunnion ASTM A182
GRADE F316

Mat, spring ELGILOY UNS R30003

Mat traceability certification EN 10204 3.1.B
(PRESSURE PART)



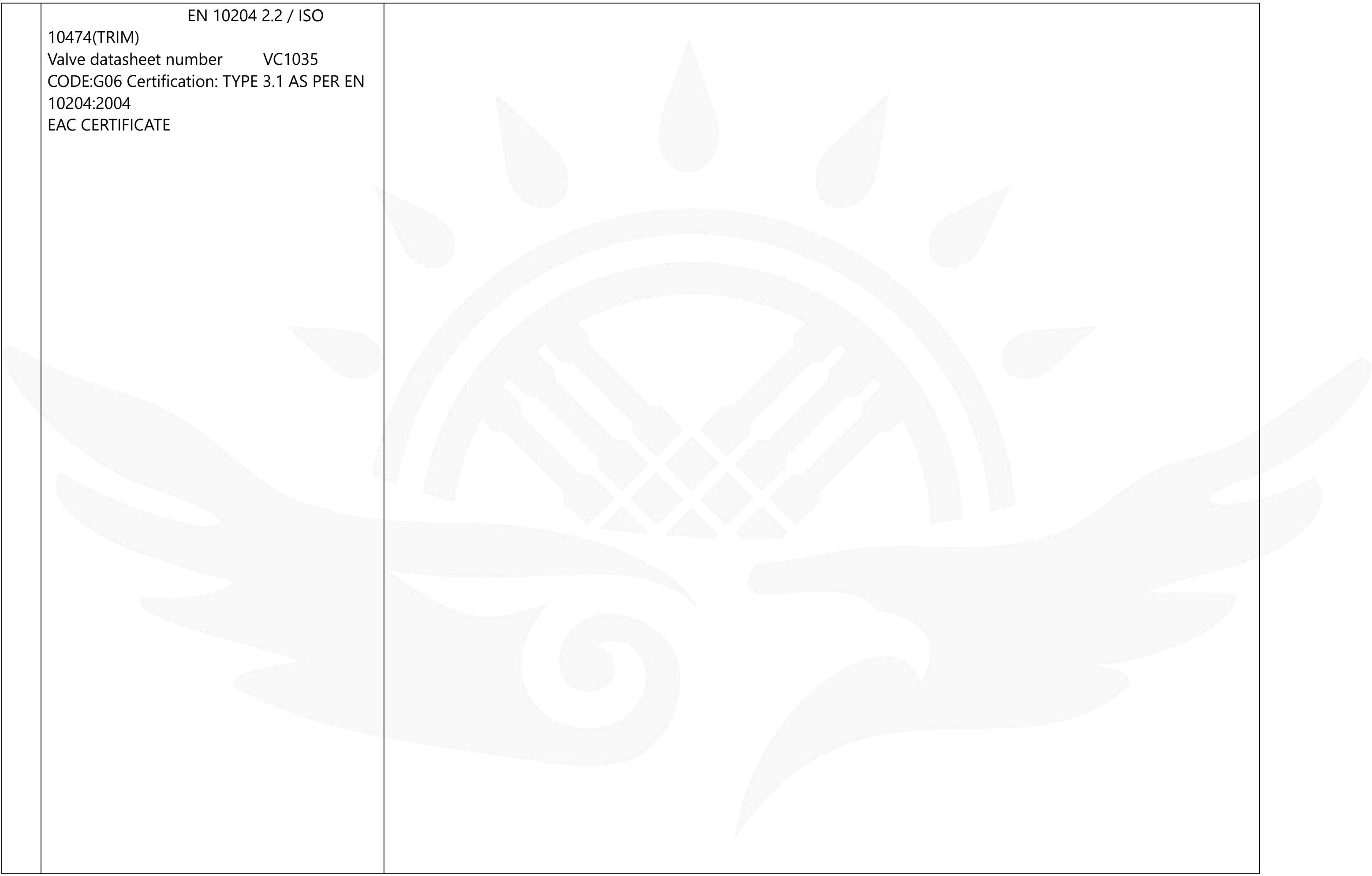
EN 10204 2.2 / ISO

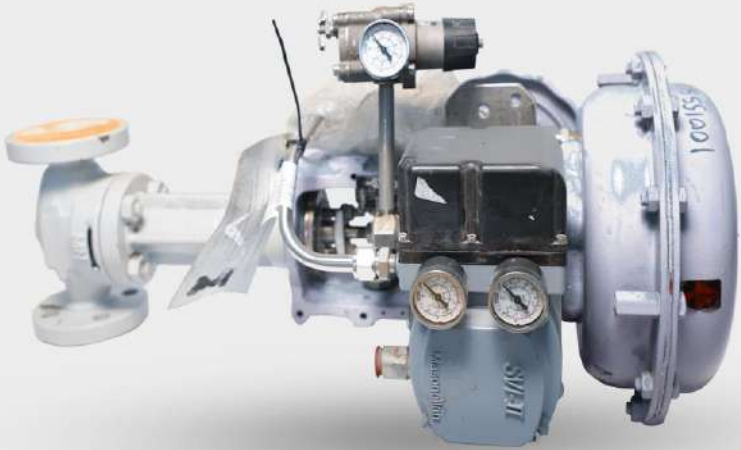
10474(TRIM)

Valve datasheet number VC1035

CODE:G06 Certification: TYPE 3.1 AS PER EN
10204:2004

EAC CERTIFICATE



26	Valves Type* TBA Nominal size* 1 in Pressure rating* CL 300 Type, connections* TBA Mat, body* CARBON STEEL Mat spec, body ASTM A352 GRADE LCC Certification: TYPE 3.1 AS PER EN 10204:2004	
27	Plastic lined reducing pipe tees Mat, fitting LOW TEMPERATURE CARBON STEEL Mat, lining POLYTETRAFLUOROETHYLENE Mat spec, body ASTM A350 GRADE LF2 Facing, flange RAISED FACE Manufacturing process, pipe SEAMLESS Pressure designation CL 150 Size 50 x 40 mm Additional information: Inlet with reduced bore in branch to fit between line bolt CODE:G06 Certification: TYPE 3.1 AS PER EN 10204:2004 ROK CERTIFICATE OF CONFORMITY	

Valve actuators	
Type, operating	PNEUMATIC,
DOUBLE ACTING	
Size, valve	N/A
Pressure rating, valve (SUPPLY)	4 TO 6 bar
Temperature rating	19 TO 40 °C
Supply medium	AIR
Model	RPD
Mounting position	PARALLEL
Air consumption	0.8 l (OPEN)
1.7 l (CLOSE)	
Mounting bracket, max	54 mm
Diameter	2 x 1/4 in
Torque, operating	400 Nm
Certification: TYPE 3.1 AS PER EN 10204:2004	



Flanged double block/bleed valve

Nominal size 3/4 x 3/4 in

Size, outlet/bleed 1/2 in NPT FEMALE

Design spec, pressure rating CL 300

Design spec API 6D ASME B16.34 ASME VIII

Type of face RAISED FACE

Type of bore FULL

Type of construction DOUBLE BLOCK
AND BLEED

Type of end connection FLANGED

Type of seat TBA

Type of bleed valve NEEDLE BLEED

VALVE COMPLETE

 WITH PLUG

Service(s) SOUR

Service requirement NACE MR 01-75

Temperature, min -40 °C

Temperature, max +200 °C

Special requirements FIRESAFE

Mat, body LOW TEMPERATURE
CARBON STEEL

Mat, trim STAINLESS STEEL 316

Mat spec, body ASTM A350 GRADE LF2

Mat spec, stem TBA Mat, seat
POLYTETRAFLUOROETHYLENE

Configuration BALL-NEEDLE-BALL

Type, valve D Size, bore 14 mm

Length, face to face 235 mm

Design pressure 740 psi

Mat, gland/seat packing GRAPHOIL

Mat spec, trunion UNS S31600

Valve datasheet number VDB3110

Complete part number DBB/D/C/Y/75-
300RF/75-300RF/ 50F-PP/FS/HL/ISO/NA

Drawing number A8886

Certification: TYPE 3.1 AS PER EN 10204:2004



30	Relief valves
Type of end connection	FLANGED
Temperature, relief	232 °C
Orifice letter designation	D
Pressure desig, inlet	CL 600
Pressure desig, outlet	CL 150
Facing, flange	RAISED FACE
(OUTLET)	
RING TYPE JOINT (INLET)	
Mat spec, bonnet	ASME SA352
GRADE LCC	
Mat spec, cap	GRADE LCC
End connection in	FLANGED
End connection out	FLANGED
Mat, body	LOW TEMPERATURE
CARBON STEEL	
Mat spec, body	ASME SA352
GRADE LCC	
Set pressure	88 barg
Size, inlet	1 in
Size, outlet	2 in
Service	GAS
Service requirement	NACE
Mat spec, bolt(s)	ASME SA193
GRADE B7	
Mat spec, nut(s)	ASME SA194
GRADE 2H	
Mat, bonnet	CARBON STEEL
Mat, nozzle	STAINLESSS STEEL
316	
Mat, disc	STAINLESSS STEEL 316
Mat, guide	STAINLESSS STEEL
316	
Mat, cap	CARBON STEEL
Weight	25 kg
Certification: PSV PASSPORT	



Valves, Ball

Nominal size	2 x 1.5 x 2 in
Design spec, pressure rating	CL 150
Type of end connection	FLANGED
Type of face	RAISED FACE
Type of closure member	FLOATING BALL
Mat, body	LOW TEMPERATURE
CARBON STEEL	
Mat, trim	STAINLESS STEEL F316
Mat spec, body	ASTM A350 GRADE
LF2	
Certification: TYPE 3.1 AS PER EN 10204:2004	



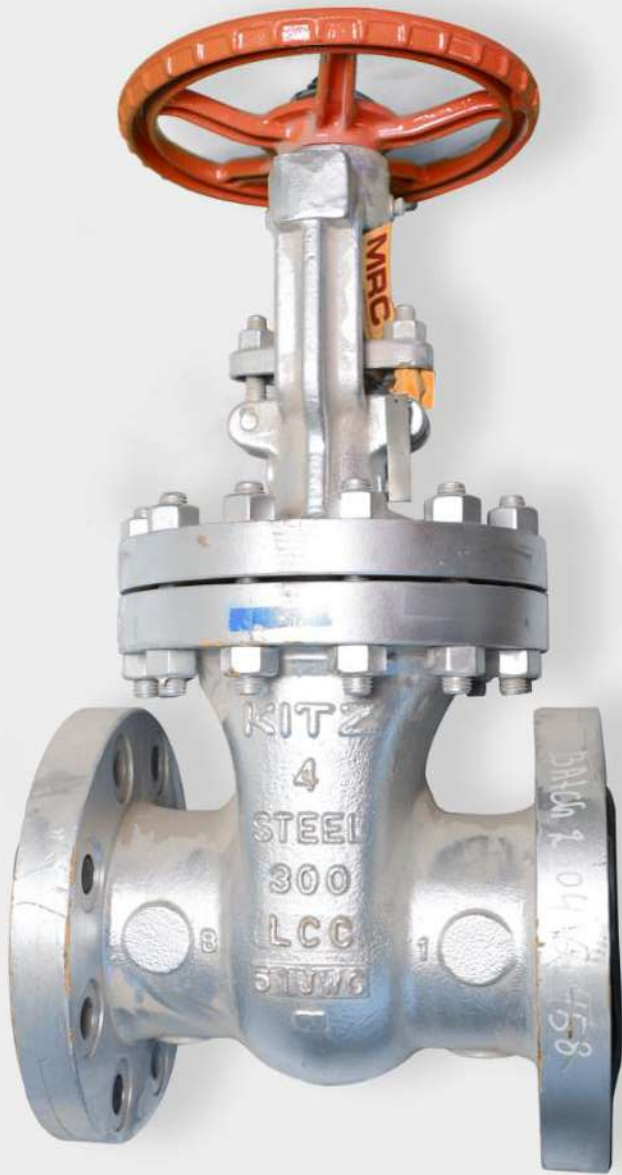
Valves, Globe
Nominal size 1 in
Design spec, pressure rating CL 600
Type of end connection TBA
Type of face RING JOINT
Type of construction BOLTED BONNET
Mat, body STAINLESS STEEL
Mat, trim TBA
Mat spec, body UNS S31600
Certification: TYPE 3.1 AS PER EN 10204:2004



Valves
Type* TBA
Nominal size* 11/2 in
Pressure rating* CL 300
Type, connections* TBA
Mat, body* CARBON STEEL
Mat spec, body ASTM A352 GRADE
LCC
Certification: TYPE 3.1 AS PER EN 10204:2004



Valves, Gate		
Design spec, end flanges	ASME B16.5	
Nominal size	4 in	
Design spec, pressure rating	CL 300	
Design spec	API 600	
Design spec, f to f (e to e)	ASME B16.10	
Type of end connection	FLANGED	
Type of face	RAISED FACE	
Type of closure member	FLEXIBLE WEDGE DISC	
Type of construction	OUTSIDE SCREW AND YOKE	
Type of bonnet/cover	BOLTED	
Type of seat	REPLACEABLE	
Service(s)	STEAM	
Temperature, min	-40 °C	
Temperature, max	+340 °C	
Mat, body	LOW TEMPERATURE CARBON STEEL	
Mat, trim	STAINLESS STEEL	
Mat spec, body	ASTM A352 GRADE LCC	
Mat spec, bonnet	ASTM A352 GRADE LCC	
Mat spec, closure member	ASTM A182 GRADE F316	
Mat spec, stem	ASTM A182 GRADE F316	
Mat spec, seat facing	STELLITE	
Mat spec, bolts/studs	ASTM A320 GRADE L7M	
Mat spec, nut(s)	ASTM A194 GRADE 7M	
Design spec, pressure	ASME B16.34	
Finish, flange facing	SMOOTH	
125 TO 250 µin		
Mat, bonnet/cover	LOW TEMPERATURE CARBON STEEL	



	Mat, stem/trunnion/pin STAINLESS STEEL Mat, closure member STAINLESS STEEL Mat spec, cover ASTM A352 GRADE LCC Mat spec, trunnion/pin ASTM A182 GRADE F316 Type, gasket SPIRAL WOUND Mat, gasket STAINLESS STEEL 316 Mat, filler GRAPHITE Mat, gland packing NON-ASBESTOS Type, operation HANDWHEEL Length, handwheel 12 in Length, gear 14 in Mat traceability certification EN 10204 3.1.B (PRESSURE PART) EN 10204 2.2 (TRIM) Valve datasheet number VG3070 CODE:G06 Certification: TYPE 3.1 AS PER EN 10204:2004 EAC CERTIFICATE	
35	Valves Type* RELIEF Nominal size* 9/16 x 3/4 in Pressure rating* 1000 barg (SET) Type, connections* SF562CX x NPTF Mat, body* STAINLESS STEEL Mat spec, body AISI 316 Pressure, operating, max 860 barg Mat spec, trim AISI 316 Size, orifice 4.78 Temperature range -36 TO +42 Deg. C Manufacturer AUTOCLAVE ENGINEERS Manufacturer Part Number 15RVP9072-14500	

Valves

Type*	NEEDLE
Nominal size*	9/16 in
Pressure rating*	22.5 kpsi
Type, connections*	TBA
Mat, body*	ALLOY 625
Type, connection, inlet/outlet	F562C
Application	HIGH PRESSURE
Service requirement	NACE
3 way one on pressure	
Manufacturer	FMC
TECHNOLOGIES	
Manufacturer Part Number	P2000022448



Valves
Type* CHECK
Nominal size* 1/2 in - 14 NPT
FEMALE
Pressure rating* 5000 psi
Type, connections* THREAD
Mat, body* STEEL
Flow Range 15 gal/min
Manufacturer PARKER HANNIFIN
Manufacturer Part Number C800S



38	Relief valves		
	Model	95111211A	
	Type of end connection	FLANGED	
	Type	BALANCED OR CONVENTIONAL	
		PRESSURE SAFETY	
	Cold differential test press.	10 barg	
	Temperature, max	40 °C	
	Pressure desig, inlet	CL 150	
	Pressure desig, outlet	CL 150	
	Facing, flange	RAISED FACE	
	Mat, body	STAINLESS STEEL 316	
	Mat spec, body	AISI 316	
	Size, orifice	0.47 cm ²	
	Set pressure	10 bar	
	Size, inlet	1 in	
	Size, outlet	1 in	
	Mat, spring	316 SST	
	Lifting pressure	11 barg	
	Re-seat pressure	8.5 bar	
	Leak teat pressure	9 bar	
	Test medium	WATER + GLYCOL	
	Manufacturer	CROSBY VALVE	
	Manufacturer Part Number	95111211A	

39

Relief valves

Model7D/571422/CR

Type of end connectionFLANGED

Type of faceRAISED FACE

Pressure desig, inletCL 150

Pressure desig, outletCL 150

Mat, bodyTBA

Set pressure5.5 barg

Size, inlet1 in

Size, outlet1 in

ServiceLUBE OIL

Hydrostatic pressure test report

Set pressure certificate

BAILEY BIRKETT part of EMERSON

AUTOMATION SOLUTIONS

ManufacturerBAILEY BIRKETT

Manufacturer Part Number

7D/571422/CR-1INX1IN 150RF/150RF-5.5BARG



40	Relief valves
	Model SMU/BT (LCB)
	Type of end connection FLANGED
	Type PRESSURE SAFETY
	Size orifice, calculated 0.046 in ²
	Pressure desig, inlet CL 300
	Pressure desig, outlet CL 150
	Mat, body LOW TEMPERATURE CARBON STEEL
	Mat spec, body ASTM A352 GRADE LF2
	Mat, trim STAINLESS STEEL 316
	Mat spec, trim AISI 316
	Orifice, ref D
	Size, orifice 0.121 in ²
	Set pressure 45 barg
	Size, inlet 1 in
	Size, outlet 2 in
	Service DRY NATURAL GAS
	Weight 22 kg
	Manufacturer AST
	Manufacturer Part Number SMU/BT-LCB- 1IN CL300 X 2IN CL150-45BARG



41	Valves	
	Type*	CIRCULATING VALVE
	BOTTOM	
	Nominal size*	TBA
	Pressure rating*	15000 psi
	Type, connections*	TBA
	Mat, body*	TBA
	Model number	L
	Working temperature	80 TO 450 °F
	Bottom consists of:	
	Qty	Part name Part number
	1	EQUALISING SUB H0A3149800
	1	EQUALISING PLUG H0A3149000
	1	JAM NUT H0A3149900
	2	SET SCREW HWWG5180D1
	1	PLUNGER SEAT H0A3148800
	1	END ADAPTER H028141201
	1	V-RING (PEEK) H028139900
	2	V-RING (TEFLON) H028140600
	1	CENTER ADAPTER H0A3150100
	1	PORTED HOUSING H0A3149100
	1	PLUNGER H0A3149500
	1	SET SCREW HWWG518081
	2	SET SCREW HWWG518061
	1	SPRING H0A3150600
	1	SPRING CAGE H0A3149700
	1	BEARING RING H0A3149200
	2	MACHINE SCREW HWWGE180HB
	1	SPRING RETAINER H0A3149600
	1	PLUNGER BODY H0A3149400
	1	MSE SEAL ASSEMBLY 10208894
	1	RESILIENT SEAL H0A3150300
	1	END ADAPTER H056648801
	Manufacturer	BAKER HUGHES
	Manufacturer Part Number	H836280001-CV



42

General Spare Parts

Part name*

ACTUATOR

ASSEMBLY

Equipment name*

SURFACE GATE

VALVE

Equipment model number*

TBA

Equipment serial number

TBA

Additional information:

Rising stem, monogrammed

For HYDRAULIC PISTON, HY-175W-L

Manufacturer

FMC

TECHNOLOGIES

Manufacturer Part Number

P1000062047



43

Relief valves

Type of end connectionFLANGED

TypePILOT OPERATED

Pressure desig, inletCL 150

Pressure desig, outletCL 150

Facing, flangeRAISED FACE (INLET / OUTLET)

Mat, bodyASME SA352 GRADE LCC

Orifice, refM

Set pressure6 barg

Size, inlet4 in

Size, outlet6 in

Temperature range-36 TO +150 °C

Temperature, operating+90 °C

ManufacturerTAI MILANO

Manufacturer Part Number9118-4M6-711-IPTMX-SN/B/C/DGPX-6BAR-SN/P

NCOC WALK & RUN 2025



Mechanical Static Parts
Part name* HARDENED DISC
Material 1.4122
Equipment name* PRESSURE RELIEF
VALVE
Equipment model number* TBA
Manufacturer LESER
Manufacturer Part Number
225.0439.9000



Mechanical Static Parts
Part name* DRAIN PLUG GASKET
Material PTFE
Equipment name* BALL VALVE
Equipment model number* TBA
Manufacturer PBV (VALVES)
PIBIVIESSE
Manufacturer Part Number 32686



Relief valves

Dim, center to face (inlet)	122 mm
Dim, center to face (outlet)	120 mm
Type of end connection	FLANGED
Type of face	TONQUE-AND-GROOVE FACE
Size orifice, actual	DIA 20 mm
Pressure desig, inlet	PN 40
Pressure desig, outlet	PN 40
Mat spec, bonnet	1.062
Mat, body	CARBON STEEL
Mat spec, body	1.0619
	ASME SA216 GRADE WCB
Set pressure	32 barg
Size, inlet	1 in
Size, outlet	2 in
Series	456
Temp range, design	-85 TO +400
Design code	DIN EN13136
Selected area	314 mm ²
Mat spec, guide and rings	1.0501 / 0.7040
Manufacturer	LESER
Manufacturer Part Number	4562.6012



47	Relief valves
Type of bonnet/cover	CLOSED
Type of end connection	FLANGED
Type	CONVENTIONAL
Back pressure, variable	1.2 barg
Orifice letter designation	D
Pressure desig, inlet	CL 300
Pressure desig, outlet	CL 150
Facing, flange	RAISED FACE
Finish, flange facing	125 AARH (INLET) 125 TO 250 AARH (OUTLET)
Mat, body	INCONEL 625
Set pressure	13 barg
Size, inlet	1 in
Size, outlet	2 in
Temperature range	-36 TO +75 °C
Service	GAS
Mat spec, bolt(s)	ASTM A320 GRADE L7M
Mat spec, nut(s)	ASTM A194 GRADE 7M
Standard	API 520/521
Material, disc	INCONEL 625
Material, guide	INCONEL 625
Material, spring	INCONEL 718
Material, bonnet	INCONEL 625
Certification	NACE MR-01-75
Weight	22 kg
Manufacturer	TAI MILANO
Manufacturer Part Number	3211A-1D2-I8 (13BARG)



48

Mechanical Static Parts

Part name* FIRE SAFE BODY

GASKET

Material ASTM A182 GRADE

F316 +

GRAPHITE

Equipment name* BALL VALVE

Equipment model number* TBA

Manufacturer PBV (VALVES)

PIBIVIESSE

Manufacturer Part Number 02089



49

Mechanical Static Parts

Part name*

FIRE SAFE STEM

GASKET

Material

GRAPHITE

Equipment name*

BALL VALVE

Equipment model number*

E3

Manufacturer

PBV (VALVES)

PIBIVIESSE

Manufacturer Part Number

03963



50

Mechanical Static Parts

Part name* FIRE SAFE BODY
GASKET

Material ASTM A182 GRADE
F316

GRAPHITE

Equipment name* BALL VALVE

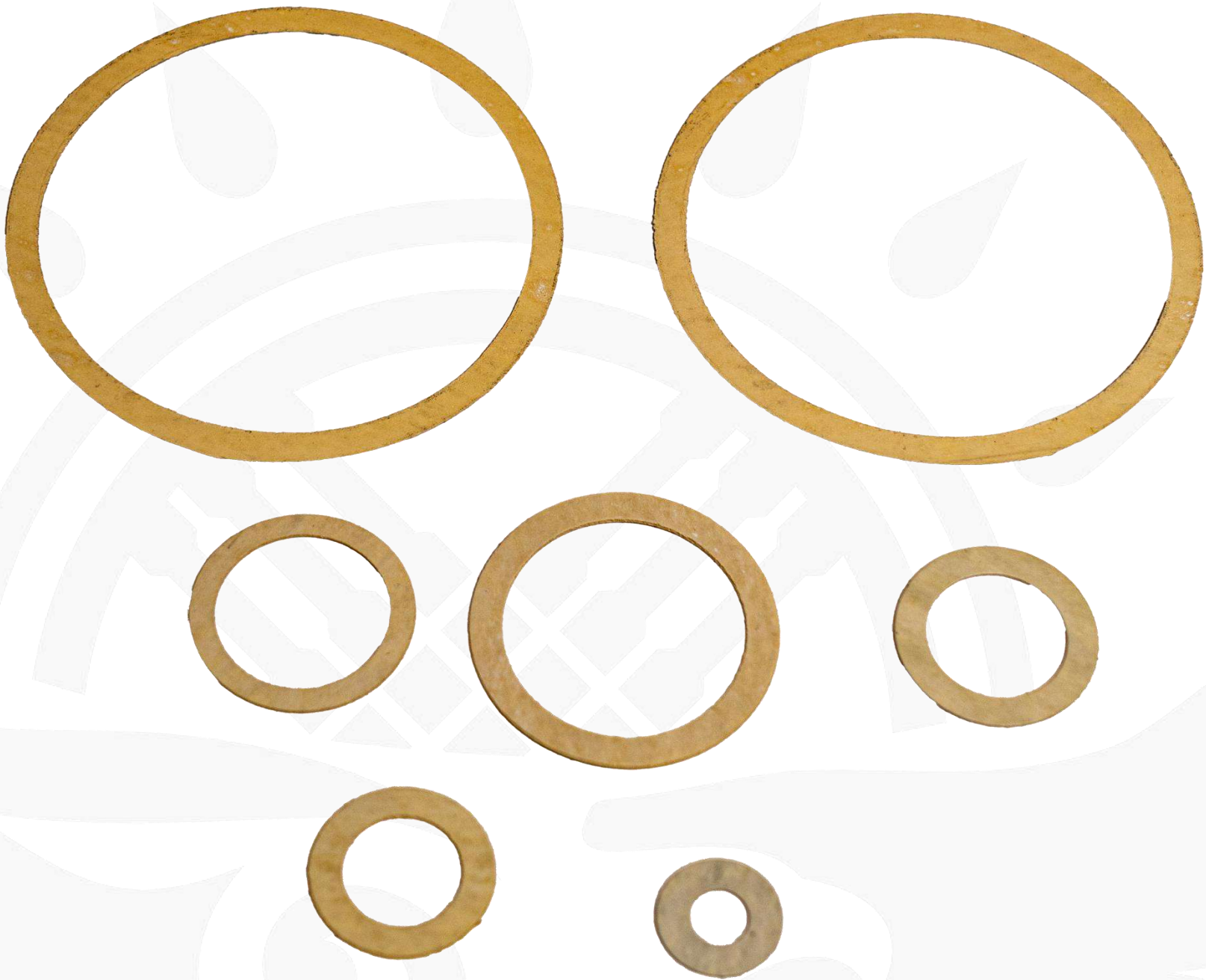
Equipment model number* TBA

Manufacturer PBV (VALVES)
PIBIVIESSE

Manufacturer Part Number 129928



51	Mechanical Static Parts
Part name*	GASKET SET
Material	ORGANIC FIBRE
Equipment name*	PRESSURE SAFETY VALVE
Equipment model number*	TBA
Manufacturer	CROSBY VALVE
Manufacturer Part Number	108305



52

Mechanical Static Parts

Part name* FIRE SAFE STEM GASKET

Material GRAPHITE

Equipment name* BALL VALVE

Equipment model number* TBA

Equipment size 18 in

Equipment ratings CL 600

Drawing number DE05/3351-2432

DE05/3352-2614

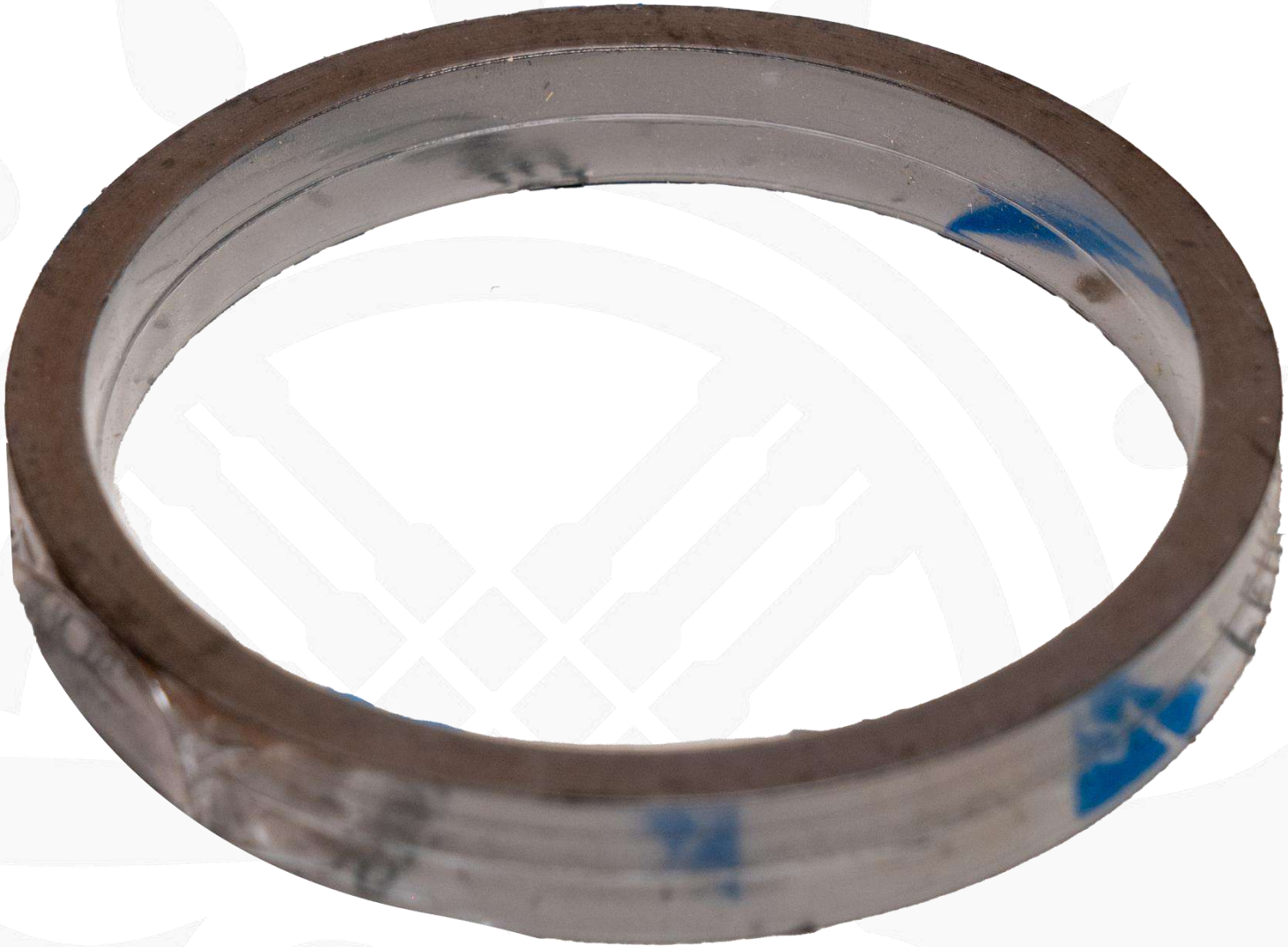
DE07/1653-2432

Position number 017

Manufacturer PETROLVALVES

Manufacturer Part Number 4600110500

PX



53

Mechanical Static Parts

Part name* GASKET

Material GRAPHITE

Equipment name* BALL VALVE

Equipment model number* TBA

Manufacturer VALVITALIA SPA

Manufacturer Part Number 6GGT2110UK



54

Mechanical Static Parts

Part name* SPIRAL WOUND
GASKET

Material ASTM A182 GRADE
F316L

GRAPHITE (FILLER)
STAINLESS STEEL 316L

Dimension 48 x 39 mm

Equipment name* GLOBE VALVE

Equipment model number* L3 305

Additional information T.0419-G3

Manufacturer BONNEY FORGE

Manufacturer Part Number 083637



55 Mechanical Static Parts
Part name* BEARING
Material DU-DRY
Equipment name* BALL VALVE
Equipment model number* TBA
Manufacturer PBV (VALVES)
PIBIVIESSE
Manufacturer Part Number 43521



56

Mechanical Static Parts

Part name*STEM THRUST
WASHER

Equipment name*BALL VALVE

Equipment model number*TBA

Additional informationFOR DU-DRY
BEARING

ManufacturerPBV (VALVES)
PIBIVIESSE

Manufacturer Part Number08418



57

Valves, Globe

Nominal size1 in

Design spec, pressure ratingCL 800

Type of end connectionSOCKET WELD

Type of boreFULL

Type of constructionOUTER SCREW AND YOKE

Type of bonnet/coverBOLTED

Mat, bodySTAINLESS STEEL

Mat, trimTBA

Mat spec, bodyLF2/F316-L/F316-L

TypePLUG / BALL

Equipment manufacturer nameBFE SPA

Equipment manuf part no202652

ManufacturerBONNEY FORGE

Manufacturer Part Number259870



58

Mechanical Static Parts
Part name* STEM O-RING
Material VITON GLT
Equipment name* BALL VALVE
Equipment model number* TBA
Manufacturer PBV (VALVES)
PIBIVIESSE
Manufacturer Part Number 03151



59	Mechanical Static Parts
Part name*	PROTECTION O-RING
Material	VITON GLT-A.E.D
Equipment name*	BALL VALVE
Equipment model number*	TBA
Manufacturer	PBV (VALVES)
PIBIVIESSE	
Manufacturer Part Number	08352



60	Mechanical Static Parts
Part name*	BODY O-RING
Material	VITON GLT-A.E.D
Equipment name*	BALL VALVE
Equipment model number*	TBA
Manufacturer	PBV (VALVES)
PIBIVIESSE	
Manufacturer Part Number	06647



61	Mechanical Static Parts
Part name*	GLAND PLATE / PROTECTION O-RING
Material	VITON GLT
Equipment name*	BALL VALVE
Equipment model number*	TBA
Manufacturer	PBV (VALVES)
Manufacturer Part Number	06682



62

Mechanical Static Parts

Part name*GASKET

MaterialPTFE

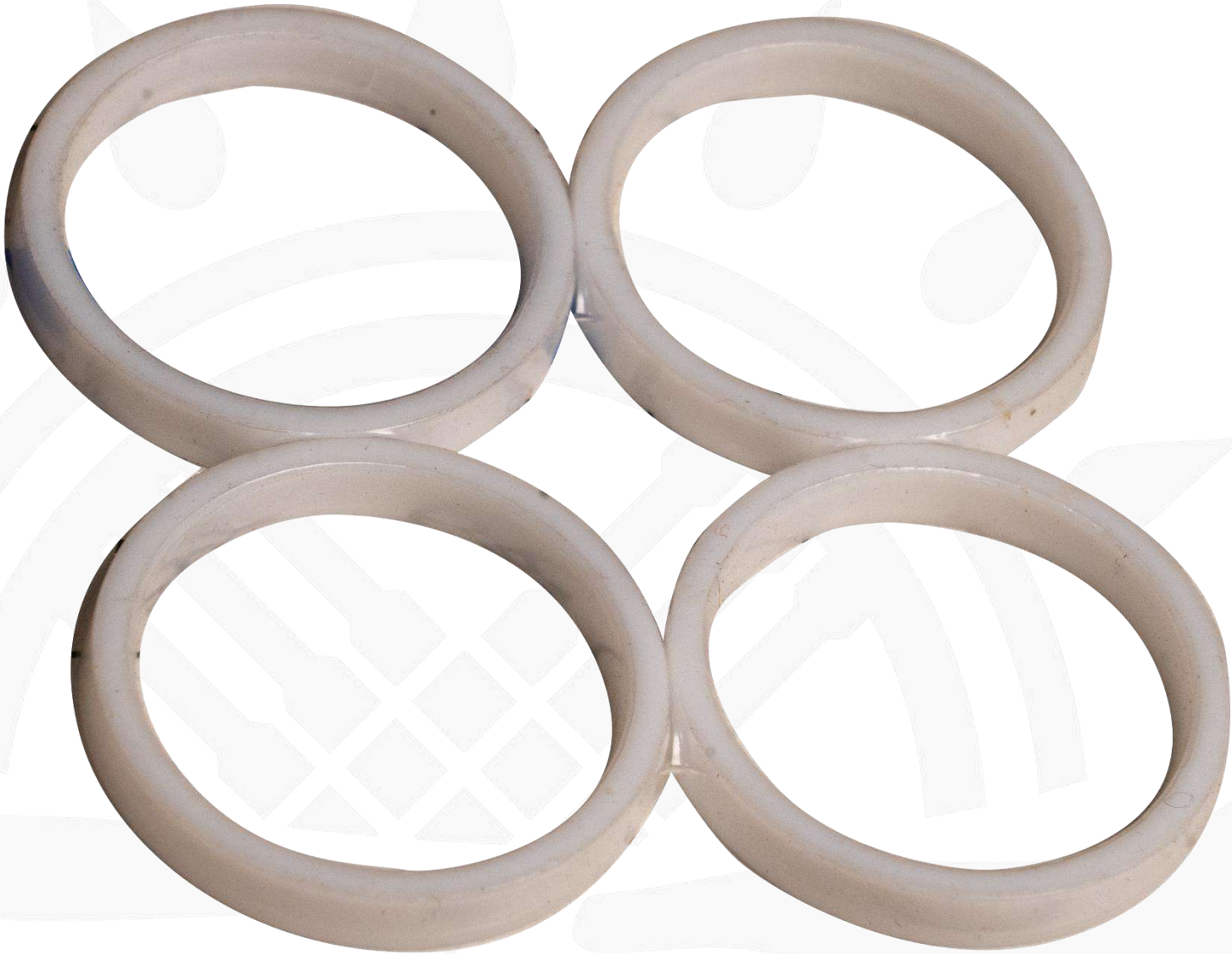
Equipment name*BALL VALVE

Equipment model number*E3

ManufacturerPBV (VALVES)

PIBIVIESSE

Manufacturer Part Number32673



63

Mechanical Static Parts

Part name*GASKET

MaterialPTFE

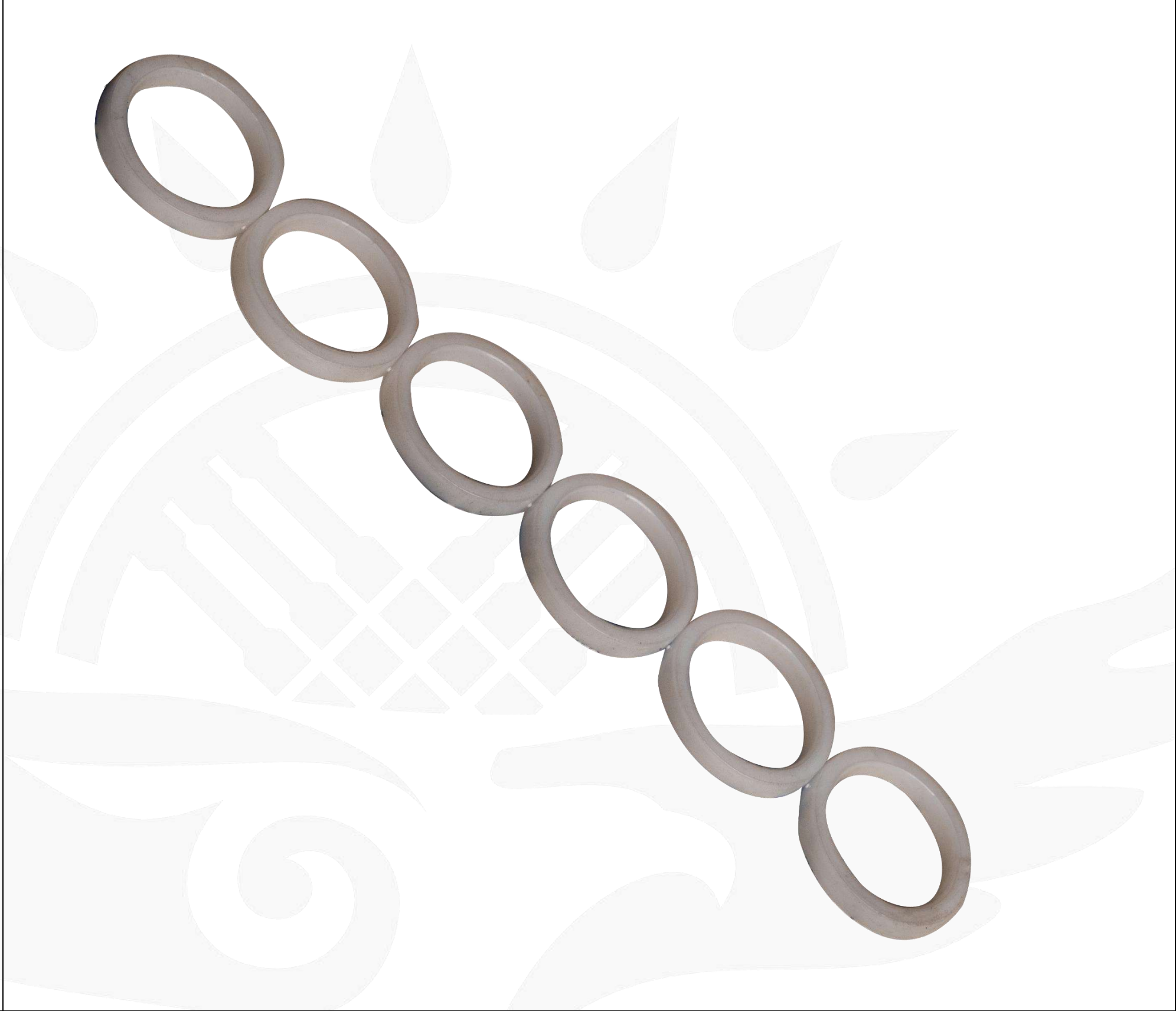
Equipment name*BALL VALVE

Equipment model number*TBA

ManufacturerPBV (VALVES)

PIBIVIESSE

Manufacturer Part Number204966



64

Mechanical Static Parts

Part name* FIRE SAFE SEAT
GASKET

Material GRAPHITE

Equipment name* BALL VALVE

Equipment model number* TBA

Manufacturer PBV (VALVES)
PIBIVIESSE

Manufacturer Part Number 123614



LINEPIPE		
65	TLET,LF2,3000psi,14:36x3/4in,SR,NPT-F Nipple outlet pipe branch fittings Design spec MSS SP-97 Mat LOW TEMPERATURE CARBON STEEL Mat, spec ASTM A350 GRADE LF2 Service SOUR Service requirement NACE MR 01-75 End preparation THREADED NPT FEMALE Pressure designation 3000 psi Size range, run pipe 350:900 mm Size, branch 20 mm Type THREDOLET	 MM: 1002091310 DESCRIPTION: TLET,LF2,3000psi,14:36x3/4in,SR,NPT-F BATCH: 1110065440

66

PIPE,10in,\V Non-metallic pipe Dimension
ratio TBA Material
GLASS FIBRE REINFORCED EPOXY Mat, spec
TBA End preparation TAPER / TAPER
CONNECTION Size 10 in
Thickness, wall TBA Brand
BONDSTRAND Pressure class 2416
Part Number 16921877-001



67

PIPE,4in,\V Non-metallic pipe Dimension
ratio TBA Material
preparation TAPER / TAPER
CONNECTION Size
Pressure class 2416



68	Metallic pipe MatLOW TEMPERATURE CARBON STEEL Mat, specASTM A333 GRADE 6 ServiceSOUR Service requirementNACE MR 01-75 Dimensional specASME B36.10M Manufacturing processSEAMLESS End preparationBEVELLED Thickness, wall12.70 mm Schedule numberS-XS Size250 mm CODE:G04 Certification: TYPE 2.1 AS PER EN 10204:2004 ROK CERTIFICATE OF CONFORMITY	
69	Materials, without Shell Internal Schema REPAIR KIT FOR MOD. DBBV DIAM.2" 1500RTJ (VDB15010) MIAP (Material): 401GAP0000314S 826252:KZ MIAP CODE NUMBER	

Metallic pipe
Mat NICKEL ALLOY
INCONEL 600
Mat, spec ASTM B167
UNS N06600
Service SOUR
Dimensional spec ASME B36.19M
End preparation PLAIN
Inspection, certif ISO 10474-3.1B
Length ~6000 mm
Diameter, od 33.40 mm
Thickness, wall 3.38 mm
Mass 2.50 kg/m
Schedule number S-40S
Size 25 mm
CODE:G04 Certification: TYPE 2.1 AS PER EN 10204:2004
ROK CERTIFICATE OF CONFORMITY



Metallic pipe
Mat STAINLESS STEEL
Mat, spec ASTM A312 GRADE
TP316
Service NON-SOUR
Dimensional spec ASME B36.19 / 10
Manufacturing process SEAMLESS
End preparation PLAIN END
Thickness, wall 3.91 mm
Schedule number S-40S
Size 50 mm
Certification: TYPE 3.1 AS PER EN 10204:2004



Metallic pipe
Mat STAINLESS STEEL
Mat, spec ASTM A312 GRADE
TP316
Service SOUR
Service requirement NACE MR 01-75
Dimensional spec ASME B36.19M
Manufacturing process SEAMLESS
End preparation BEVELLED
Thickness, wall 3.05 mm
Schedule number S-10S
Size 100 mm
Certification: TYPE 3.1 AS PER EN 10204:2004
ROK CERTIFICATE OF CONFORMITY



73

Metallic pipe
Mat STAINLESS STEEL
Mat, spec ASTM A358 GRADE 316 CLASS 3
Service SOUR
Service requirement NACE MR 01-75
Dimensional spec ASME B36.19M
Manufacturing process ELECTRIC FUSION WELDED
End preparation BEVELLED
Thickness, wall 4.78 mm
Schedule number S-10S
Size 350 mm
CODE:G04 Certification: TYPE 2.1 AS PER EN 10204:2004
ROK CERTIFICATE OF CONFORMITY



74

Materials, without Shell Internal Schema
PIPE 18" 19.05 ASME B36.19M BE ASTM A 358 GRADE 316/316L CLA
SSE 3 EFW NACE
Certification: TYPE 3.1 AS PER EN 10204:2004



75	Metallic pipe Mat STAINLESS STEEL Mat, spec ASTM A358 GRADE 316 CLASS 3 ASTM A358 GRADE 316L CLASS 3 Service NON-SOUR Coating NON-COATED Dimensional spec ASME B36.19M Manufacturing process ELECTRIC FUSION WELDED End preparation BEVELED Length 9.53 m Thickness, wall 9.53 mm Schedule number S-STD Size 600 mm Certification: TYPE 2.1 AS PER EN 10204:2004	
76	Metallic pipe Mat STAINLESS STEEL Mat, spec ASTM A358 GRADE 316 CLASS 3 ASTM A358 GRADE 316L CLASS 3 Service NON-SOUR Coating NON-COATED Dimensional spec ASME B36.19M Manufacturing process ELECTRIC FUSION WELDED End preparation BEVELED Length 5.93 m Thickness, wall TBA Schedule number S-STD Size 1050 mm Certification: TYPE 2.1 AS PER EN 10204:2004	

77

Materials, without Shell Internal Schema
PIPE 72" 12.70 ASME B36.19M BE ASTM A
358 GRADE 316/316L CLA
SSE 3 EFW NACE
Certification: TYPE 3.1 AS PER EN 10204:2004



78

Metallic pipe
Mat LOW TEMPERATURE
CARBON STEEL
Mat, spec ASTM A333 GRADE 6
Service SOUR
Service requirement NACE MR 01-75
Dimensional spec ASME B36.10M
Manufacturing process SEAMLESS
End preparation BEVELLED
Thickness, wall 21.44 mm
Schedule number S-80
Size 400 mm
Certification: TYPE 2.1 AS PER EN 10204:2004



Non-metallic pipe
Dimension ratio TBA
Material GLASS FIBRE
REINFORCED EPOXY
Mat, spec TBA
End preparation TAPER / TAPER
CONNECTION
Size 10 in
Thickness, wall TBA
Brand BONDSTRAND
Pressure class 2416
Certification: TYPE 2.1 AS PER EN 10204:2004



80

NON METALLIC PIPE; 3416-20" T/T PIPE MXF
L
Certification: TYPE 3.1 AS PER EN 10204:2004



81

Metallic pipe
Mat LOW TEMPERATURE
CARBON STEEL
Mat, spec ASTM A671 GRADE
CC60 CLASS 52
Service SOUR
Service requirement NACE MR 01-75
Manufacturing process SUBMERGED
ARC WELDED
End preparation BEVELLED
Thickness, wall 45.17 mm
Size 1050 mm
Certification: TYPE 3.1 AS PER EN 10204:2004



82

Welding neck pipe flanges

Design spec ASME B16.5

Mat NICKEL ALLOY

INCONEL 625

Mat, spec ASTM B564

UNS N06625

Facing, flange RING TYPE JOINT

Pressure designation CL 900

Service SOUR

Service requirement NACE MR 01-75

Thickness, hub 21.44 mm

Size 400 mm

Certification: TYPE 3.1 AS PER EN 10204:2004



83

Spade line blinds

Mat CARBON STEEL

Mat, spec ASTM A516 GRADE 70

Design spec ASME B16.48

Service SOUR

Service requirement NACE MR 01-75

Pressure designation CL 600

Thickness 1.5 mm

Size 400 mm

Facing, flange RING TYPE JOINT

Type of pattern THROUGH BOLTED

CODE: G06 Certification: TYPE 3.1 AS PER EN 10204:2004, ROK CERTIFICATE OF CONFORMITY

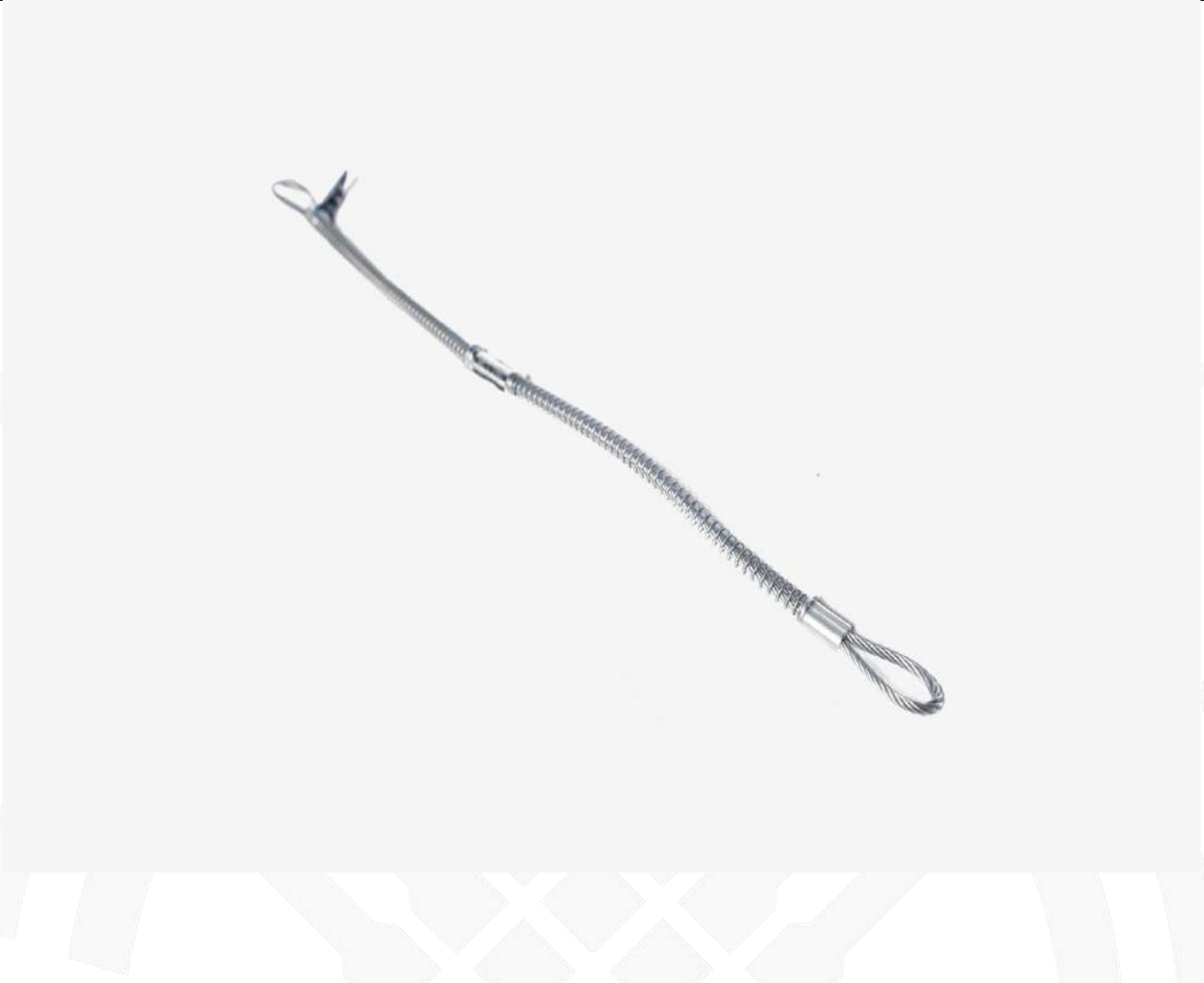


84	Blind pipe flanges Design specASME B16.47 SERIES A MatLOW TEMPERATURE CARBON STEEL Mat, specASTM A350 GRADE LF2 CLASS 1 Facing, flangeRAISED FACE Finish, flange facingRA: 125 TO 250 µin ServiceSOUR Service requirementNACE MR 01-75 Pressure designationCL 150 Size1400 mm Certification: TYPE 3.1 AS PER EN 10204:2004	
85	Blind pipe flanges Design specASME B16.5 MatLOW TEMPERATURE CARBON STEEL Mat, specASTM A350 GRADE LF2 Facing, flangeRAISED FACE Finish, flange facingRA: 125 TO 250 µin ServiceSOUR Service requirementNACE MR 01-75 Pressure designationCL 150 Size6 in Certification: TYPE 3.1 AS PER EN 10204:2004	

86	Stud bolts with nuts Mat spec, stud bolt(s)ASTM A320 GRADE L7 Mat spec, nut(s)ASTM A194 GRADE 4 CoatingHOT DIP GALVANIZED Design spec, stud boltBS 4882 Design spec, threadASME B1.1 Thread class symbol, stud boltASME B1.1 CLASS 2A Thread class symbol, nutASME B1.1 CLASS 2B Type of threadUNIFIED COARSE THREAD Type, nutHEAVY HEXAGONAL Number, nuts per stud bolt2 Inspection, certifISO 10474 -3.1B Length65 mm Size1/2 in CODE:G06 Certification: TYPE 3.1 AS PER EN 10204:2004	
87	Stud bolts with nuts Mat spec, stud bolt(s)ASTM A320 GRADE L7M Mat spec, nut(s)ASTM A194 GRADE 7M CoatingCENTRIFUGED HOT DIP GALVANIZED Type of threadUNIFIED COARSE THREAD Number, nuts per stud bolt2 Length85 mm Size5/8 in Coating specBS 729 Mat spec, pipe0103X INCOLOY 825 Pressure designation, pipeCL 150 Certification: TYPE 3.1 AS PER EN 10204:2004	

88	Spectacle line blinds MatCARBON STEEL Mat, specASTM A285 GRADE C Design specASME B16.48 Design spec, flange(s)ASME B16.5 ServiceNON-SOUR Inspection, certifISO 10474-3.1B Pressure designationCL 150 Size50 mm Facing, flangeRAISED FACE Type of patternTHROUGH BOLTED Certification: TYPE 3.1 AS PER EN 10204:2004	
89	Spectacle line blinds MatCARBON STEEL Mat, specASTM A516 GRADE 60 Design specASME B16.48 Design spec, flange(s)ASME B16.5 ServiceNON-SOUR Inspection, certifISO 10474-3.1B Pressure designationCL 150 Size80 mm Facing, flangeRAISED FACE CODE:G06 Certification: TYPE 3.1 AS PER EN 10204:2004 ROK CERTIFICATE OF CONFORMITY	

90	Spectacle line blinds MatSTAINLESS STEEL Mat, specASTM A182 GRADE F316 Design specASME B16.48 Finish, flange facingRA: 125 TO 250 µin ServiceSOUR Service requirementNACE MR 01-75 Pressure designationCL 150 Size150 mm Facing, flangeRAISED FACE Type of patternTHROUGH BOLTED CODE: G06 Certification: TYPE 3.1 AS PER EN 10204:2004, ROK CERTIFICATE OF CONFORMITY	
91	Spade line blinds MatSTAINLESS STEEL 304L Mat, specASTM A240 TYPE 304L Design specASME B16.48 Design spec, flange(s)ASME B16.5 Standard drawingDEP STD D S-38.042-001 2012 Mandatory add reqrmtsMESC SPE 76/012 2012 MESC SPE 76/222 2012 Inspection, certifISO 10474 -3.1B Pressure designationASME CL 150 SizeNPS 1/2 MESC code7688455021	

92	Couplings		
	Type HOSE		
	Style		
	Size, cable		
	Length		
	Size, hose ID		
	Material: Wire Rope CARBON STEEL		
	Ferrules Springs STEEL		
	Maximum working pressure Form of supply		
	Certification: TYPE 3.1 AS PER EN 10204:2004		

93

Hardware and Tools
Type POP RIVET
Material STAINLESS STEEL 304
Size, tool 3.2 x 6 mm
CODE:G04 Certification: TYPE 2.1 AS PER EN 10204:2004



94

Bursting discs
Mat NICKEL ALLOY
INCONEL 825
Mat, spec TBA
Type of disc(s) GI-FSR RTJ AND RI RUPTURE
Size 100 mm
Pressure, bursting 131 barg
Range, temperature, operating 35 °C
Tolerance +/-5%
Mat, seal HASTELLOY C-276
Nominal burst pressure 124.45 barg
Minimum burst pressure 118.23 barg
Maximum burst pressure 130.67 barg
Pressure designation CL 900
Manufacturer FIKE
Manufacturer Part Number 0531074



95	Mechanical Static Parts Part name* SPRING Material NICKEL ALLOY INCONEL 718 UNS N07718 Equipment name* PRESSURE SAFETY VALVE Equipment model number* 92187213L4LRIPTMX Additional information: Manufacturer old part number 097124.00140.MLCM + 097124.00130.MLCM Manufacturer TAI MILANO Manufacturer Part Number 097124.00130.MKGM+097124.00140.MKGM
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97	Hoses hydraulic with connectors		
Service	ENGINE OIL		
Mat, inner tube	PTFE		
Mat, reinforcement	STAINLESS STEEL		
304 WIRE BRAID			
Diameter, id	0.504 in		
Diameter, od	0.633 in		
Pressure, working	103 bar	1500 psi	
Length	0.6 m		
Connector a	MALE NPT -		
STRAIGHT			
Connector b	FEMALE NPS FLAT		
FACE SWIVEL -	STRAIGHT		
Type	TRUEBORE		
Mat, liner	TEFLON		
Mat, connector	STEEL		
Style, connector	SWAGED		
Size, connector a	1/2 in		
Size, connector b	1/2 in		
Pressure, bursting	6000 psi		
Bend radius, min	6.5 in		
Nominal size	5/8 in		
Wall thickness	0.031 in		
Certification	CERTIFICATE OF		
CONFORMITY	HYDROSTATIC PRESSURE		
TEST Manufacturer	TITEFLEX		
Manufacturer Part Number	R115/R105-		
10 (0.6M)			



Spade line blinds
Mat CARBON STEEL
Mat, spec ASTM A516 GRADE 65
ASTM A516 GRADE 70
Design spec ASME B16.48
Design spec, flange(s) ASME B16.5
Service SOUR
Service requirement NACE MR 01-75
Inspection, certif ISO 10474- 3.1B
Pressure designation CL 150
Size 250 mm
Facing, flange FLAT FACE
Type of pattern THROUGH BOLTED



99

Threaded pipe couplings

Type

HEXAGONAL

Design spec

ANSI B31.1 AND B31.3

Mat

STAINLESS STEEL 316

Mat, spec

AISI 316

Type of thread

NPT FEMALE

Pressure designation

6600 psi

Size

1/4 x 1/4 in

Service

TBA

Shape

STRAIGHT

Hex size

3/4 in

Manufacturer

PARKER HANNIFIN

Manufacturer Part Number

4-4 FHC-SS



100

General Spare Parts
Part name* PRO-LOCK
Equipment name* TBA
Equipment model number* TBA
Equipment serial number TBA
Additional information:
Colour GREEN
Manufacturer PRO-LOCK
Manufacturer Part Number PR-01XSGWC



ELECTRICALS

101

DRIVE,VARFREQ,500TO690Vac,52A,45kW,IP21
Variable_speed_drive_systems Type
VARIABLE FREQUENCY DRIVE Voltage rating*
500 TO 690 Vac Current rating* 52
A Power rating* 45 kW Frequency*
TBA Number of phase 3 Ingress
protection* IP21



CABLE,CAT5E,UTP,FTP,4PR,24AWG,GREY
Cable Design spec TIA/EIA 568B1,
ISO/IEC 11801, EN 50173
Type CAT5E Conductor
material STRANDED COPPER Material,
insulation PVC Color
GREY Number of cores 4 PR Core
size 24 AWG Cable OD
5.5 mm UTP = Unshielded twisted pair FTP =
Flexible twisted pair



BOARD,DISTRIBUTION,400V,125A,400Vac,\V
Switchboards Type
DISTRIBUTION BOARD Power supply
400 Vac Current, rated 125 A
Voltage, rated output 230 TO 400 Vac
Not in use! kz024-0446 modulex 250
emporary distribution board Reference
number 01303-R**T



104	STUD,DRIVING,15mm Accessories Electrical Type* DRIVING STUD Ratings* N/A Dimension* 15 mm	
105	Cable tray risers Construction style VERTICAL PERFORATED OUTSIDE Mat TBA Depth, inside TBA Heigth, flange 50 mm Width, tray 100 mm Length, tray TBA Thickness TBA Angle* 90° Radius 300 mm Certification: TYPE 2.1 AS PER EN 10204:2004	

106	Cable tray covers Mat STEEL Width Style, construction Angle Radius Coating Quantity of rs clip With cover fixing h/w consisting of 4 rs clips SILICON ENRICHED 100 mm HORIZONTAL 90° 300 mm HOT DIP GALVANIZED 7772	
107	Cable trays Style, construction SECTION Mat Depth, inside Rung spacing Width, tray Length, tray Load Thickness Radius Certification: TYPE 2.1 AS PER EN 10204:2004 STRAIGHT TBA TBA TBA 400 x 100 mm TBA TBA TBA 300 mm	

Materials, without Shell Internal Schema
CABLE LADDER 600 X 150 MM VERTICAL
CONVEX 90° BENDS AISI 316
L
MIAP (Material): 348AJP3866400
826252:KZ MIAP CODE NUMBER



109	Hazardous areas fluorescent luminaires
Type	BULKHEAD
Ingress protection	IP 66 / IP 67 EN 60529
Reflector	BRUSHED ALUMINIUM
Control gear	ELECTRONIC
Cable entry	2 x M20
Power supply	110 TO 254 Vac / Vdc
Lamps	8 x 1 W
Duration, battery operation	90 min
Model	NEXLED E
Application	EMERGENCY
Power	8 W
Light Source	LIGHT EMITTING DIODE
Battery:	
Voltage rating	4.8 V
Electro chemical system	Ni-Cd
Temperature:	
Temperature class	T4
Working temperature range	-45 to +55 °C
Dust environment	T100 °C
Terminal:	
Connecting terminal	4
Cross section, terminal	4 mm ²
With looping	
International approvals	IECEX, ATEX, GOST
Additional	SUPPLIED WITH IECEX CERTIFICATION
	LABEL
	CODE:G04 Certification: TYPE 2.1 AS PER EN 10204:2004, EAC CERTIFICATE



110	Non armoured electrical cable ApplicationEARTHING FOR ELECTRONIC PILOTS Voltage0.5 kV ConstructionRBR Mat, conductorCOPPER Mat spec, insulationSILICON RUBBER Colour, outer sheathGREEN / YELLOW Number, cores1 CORE Cross section, cores1.5 mm² Diameter, od, overall3 mm Voltage, testing2000 V Voltage, spark test3000 V Size, individual wire0.25 mm Number of wires30 x 0.25 mm Thickness, insulation0.7 mm (AVERAGE) Resistance, maximum13.3 ohm/km Temperature range, working-60 TO +180 °C Temperature, working (max)250 °C Color according to IEC standard CODE:G04 Certification: TYPE 2.1 AS PER EN 10204:2004 EAC CERTIFICATE	
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Cable
Type* SELF-REGULATING
HEATING
Application HEAT TRACING
Material* TINNED COPPER
(BRAID)
Ratings* 240 Vac
Length* TBA
Power rating, output 33 W/m
Temperature 185 °F (85 °C)
Color SOLID GREY
Bend 1.25 in
Certification: TYPE 2.1 AS PER EN 10204:2004



112

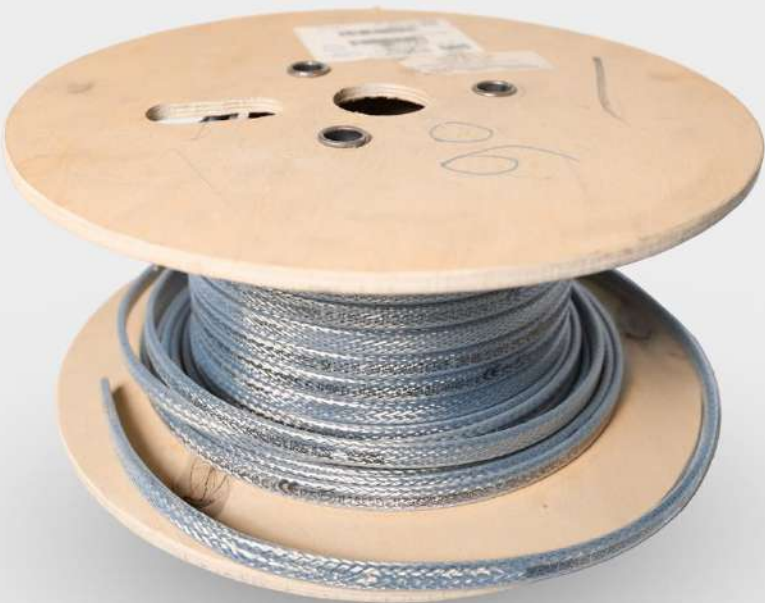
Cable
Type* SELF-REGULATING
HEATING
Application HEAT TRACING
Material* FLUOROPOLYMER
(OVERJACKET) NICKEL-PLATED COPPER



113

Cable
Type* SELF-REGULATING
HEATING
Application HEAT TRACING
Material* FLUOROPOLYMER
(OVERJACKET) NICKEL-PLATED COPPER

(BRAID)
Ratings* 120 Vac
Length* TBA
Model VSX-10-2-OJ
Power rating, output 32 W/m
Certification: TYPE 2.1 AS PER EN 10204:2004



114

Electrical heat tracing

Model number BSX 10-2-OJ

Type SELF REGULATING

HEATING CABLE

Classification, hazard areas TBA

Cross section, conductor 220 mm²

Power supply 240 V

Temperature, exposure, max 150 °F

Output 10 W/ft AT 50 °F

Length, heating zone TBA

Certification: TYPE 2.1 AS PER EN 10204:2004



115

Non armoured electrical cable

Voltage 600 TO 1000 V

Construction PVC

Mat, conductor TINNED COPPER

Mat spec, insulation PVC

Mat spec, outer sheath TBA

Colour, outer sheath BROWN

Number, cores 1 CORE

Cross section, cores 2.5 mm²

Diameter, od, overall 3.7 mm

Type TRI-RATED

Cable shape ROUND

Core strands 50 x 0.25

Current rating 30 A

Insulation wall thickness 0.8 mm

Operating temperature, max 105 °C

Operating temperature, min -40 °C

Number of strands 50

Size of strands 0.25

Form of supply REEL OF 100 m

Certification: TYPE 2.1 AS PER EN 10204:2004



116	Non armoured electrical cable
Application	SWITCH GEAR
Voltage	600 V
Construction	PVC
Mat, conductor	FLEXIBLE COPPER
Mat spec, insulation	PVC
Mat spec, outer sheath	TBA
Colour, outer sheath	LIGHT BLUE
Number, cores	1 CORE
Cross section, cores	1.50 mm ²
Diameter, od, overall	TBA
Diameter, od, lead sheath	3.4 mm
Type	TRI-RATED
UL style	1015
Gauge, wire	16 AWG
Standard	BS6231
Temperature, max	105 °C
Current rating	21 A
Thickness, insulation	30 MIL
Form of supply	REEL OF 100 m
Certification:	TYPE 2.1 AS PER EN 10204:2004



117	Electric motors
Model number	M3GP
Type of motor	SQUIRREL CAGE
INDUCTION	
Voltage	400 V (+/- 5%)
Frequency	50 Hz (+/- 2%)
Phase	3
Full load current	35.1 A
Frame size	180 MLA
Method of mounting	IM1001, B3
(FOOT)	
Insulation class	F
Ingress protection	IP65
Classification hazardous	Ex nA IIC T3 Gc
Ex tb IIIB T125C Db	
No. of poles	4
Ambient temperature	40 °C



Direction, rotation	CLOCKWISE / COUNTER CLOCKWISE
Method of cooling (IC411)	SELF VENTILATED
TEFC	
Speed	1474 r/min
Power rating	18.5 kW
Power factor	0.5 AT STARTING
0.69 AT 50% LOAD	
0.78 AT 75% LOAD	
0.83 AT 100% LOAD	
Type, duty	S1 (IEC) 100%
Current rating, no-load	13.9 A
Current rating, starting (FULLFILLED IEC 60034-12 DESIGN N,H)	7.2 A
Torque, nominal	120 N.m
Torque, locked rotor	2.6 N.m
Torque, maximum	3.1 N.m
Torque, minimum	2.2 N.m
Speed at minimum torque	270 r/min
Efficiency	91.6% AT 35.1 A
92% AT 27.9 A	
91.2 AT 21.2 A	
Starting time, maximum	15 s (HOT)
27 s (COLD)	
Temperature class	B
Standard	IEC 60034-1
Certification	LCIE 12 ATEX 3021X
Altitude (ABOVE SEA LEVEL)	1000 m
Designation number, bearing	6310/C3 (DE)
6310/C3 (NDE)	
Sound level, noise	62 dB(A) AT 1 m
Moment of inertia	0.19 kg.m ²
Position, terminal box	TOP
Weight, rotor	52 kg
Weight, motor	271 kg
Certification: TYPE 2.1 AS PER EN 10204:2004	

118

Non-rechargeable batteries
Type N/A
Voltage 3.6 V
Capacity 1.45 A.h
Application DNFT NO FLOW
TIMER
Certification: TYPE 2.1 AS PER EN 10204:2004



119

Crimp cable end connectors
Type SPLICE
Mat COPPER
Cross section, conductor 95 mm²
Diameter, od, bolt 13.5 mm
Dimensions LG 43 mm
Application LOW VOLTAGE CABLE
Certification: TYPE 2.1 AS PER EN 10204:2004



120

Protectors, surge
Type 2-ELECTRODE
ARRESTER
GAS DISCHARGE TUBE
(GDT)
Application MODEM, ANTENNA,
TUNER
XDSL-SPLITTER, DATA
LINES
Voltage 75 V
Current rating 10 kA
Model EC75X
Voltage, impulse spark <(> <<)> 700 V
AT 1 kV/μs
Resistance, insulation > 10 Gohm AT 50
Vdc
Capacitance <(> <<)> 1 pF AT 1
MHz
Temperature range, operating -40 TO +90
°C
Quantity 100 PC ON 5 TAPED
STRIPES
Reference 1843306
Weight 1.5 g
Features:
1. Axial leaded
2. Low capacitance
Certification: TYPE 2.1 AS PER EN 10204:2004



121

Spare_parts

Part name	MICRO SWITCH
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Additional information:

With cover and o-ring included

Certification: TYPE 2.1 AS PER EN 10204:2004,
FAT CERTIFICATE



122

Instrumentation Parts

Part name*	INTEGRAL LCD
DISPLAY	

Equipment name* PRESSURE GAUGE

Equipment model number*
266DRHESRRRT1-W3L1B5/021

Drawing number	SL/266XXH-EN_0
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Position number	8
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Additional information WITH
CONNECTOR

Certification: TYPE 2.1 AS PER EN 10204:2004

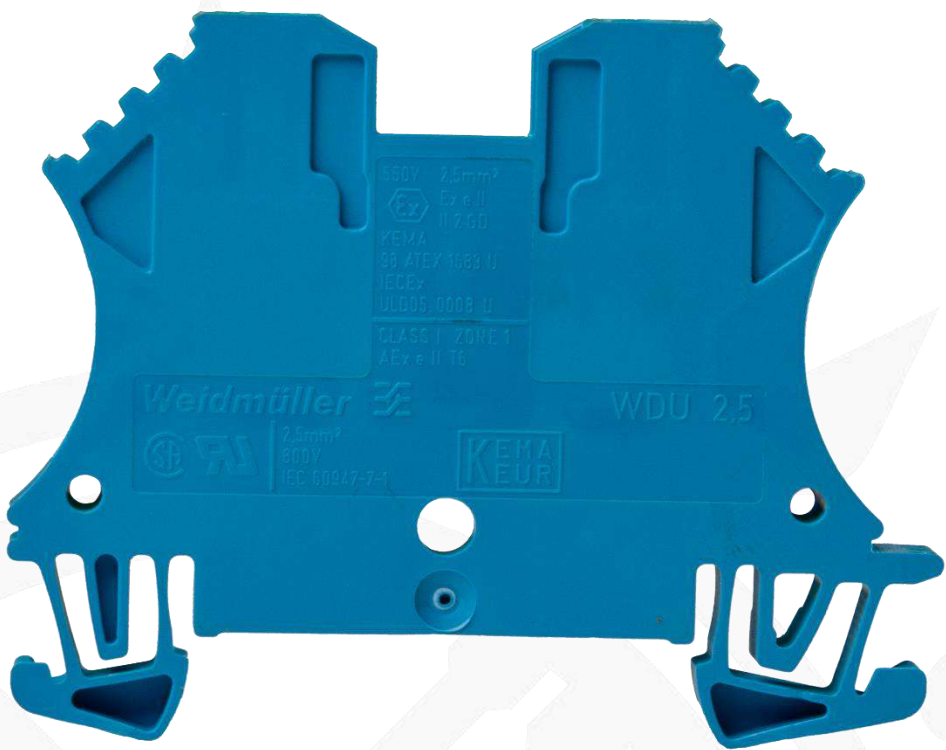


123

Indicator lamps
Wattage rating TBA
Amperage rating 4 TO 6 mA
Voltage rating 110 TO 130 Vac/dc
Type, base BA9s
Colour, lens WHITE
Model KA2-2145
Service life 25000 h
Dimensions WD 0.01 x HGT 0.01
x DP .025 m
Manufacturer ABB LOW VOLTAGE
SYSTEMS
Manufacturer Part Number
1SFA616921R2145



Rail mounted terminals and accessories	
Type	FEED-THROUGH
TERMINAL BLOCK	
Model	WDU 2.5 BL
Series	W
Type, terminal	FEED-THROUGH
Type, mounting	DIRECT
Type, connection	CLAMPING YOKE
Rated cross-section	2.5 mm ²
Voltage rating	800 V
Current rating	24 A
Temperature, operating	-50 TO +120 °C
Material	WEMID
Color	BLUE
Dimensions	60 x 5.1 x 46.5 mm
Manufacturer	WEIDMUELLER
Manufacturer Part Number	1020080000



125	Crimp cable end connectors		
	Type	CRIMP RING TERMINAL	
	Mat	COPPER	
	Insulation	VINYL	
	Colour, insulation	YELLOW	
	Cross section, conductor	12 TO 10 AWG	
		2.6 TO 6.6 mm ²	
	Diameter, od, bolt	M6	
	Dimensions	ID 6.73 x OD 13.49 x	
		LG 33.71 mm	
	Series	PLASTIC-GRIP	
	Contact plating	TIN	
	Temperature range	-55 TO +105 °C	
	RS stock number	842-135	

Form of supply	PACK OF 100 EA
Manufacturer	TE CONNECTIVITY
Manufacturer Part Number	34855

126

Electrical relays

Voltage	24 Vdc
	250 V
Amperage	5 A
Number, contacts	4
Approval	CE
Terminal type	PLUG-IN
Contact configuration	4CO
Material, contact	Ag Ni
Load, rated	1750 VA
Feature	LOCKABLE TEST
BUTTON +	MECHANICAL INDICATOR
Temperature, ambient	-40 TO +85 °C
Type	MINIATURE
Manufacturer	FINDER
Manufacturer Part Number	55.34.9.024.0040



127

Electrical cable connection boxes

TypeJUNCTION BOX

Manufacturer model numberJBM-100-L-EP

ApplicationHEAT TRACE

Classification, hazard areasATEX EX II 2 G

Exem II

II 2 G / D EEx e II IP 66

PTB 98 ATEX 1021 U

Ingress protectionIP66

MatENGINEERING

POLYMERS, BLACK

Mandatory requirementsLED

INDICATOR, COLOR GREEN

Dimensions220 x 120 x 90 mm

Terminals, internals2 PHASE, 2

NEUTRAL, 2 EARTH

WAGO 284 SERIES

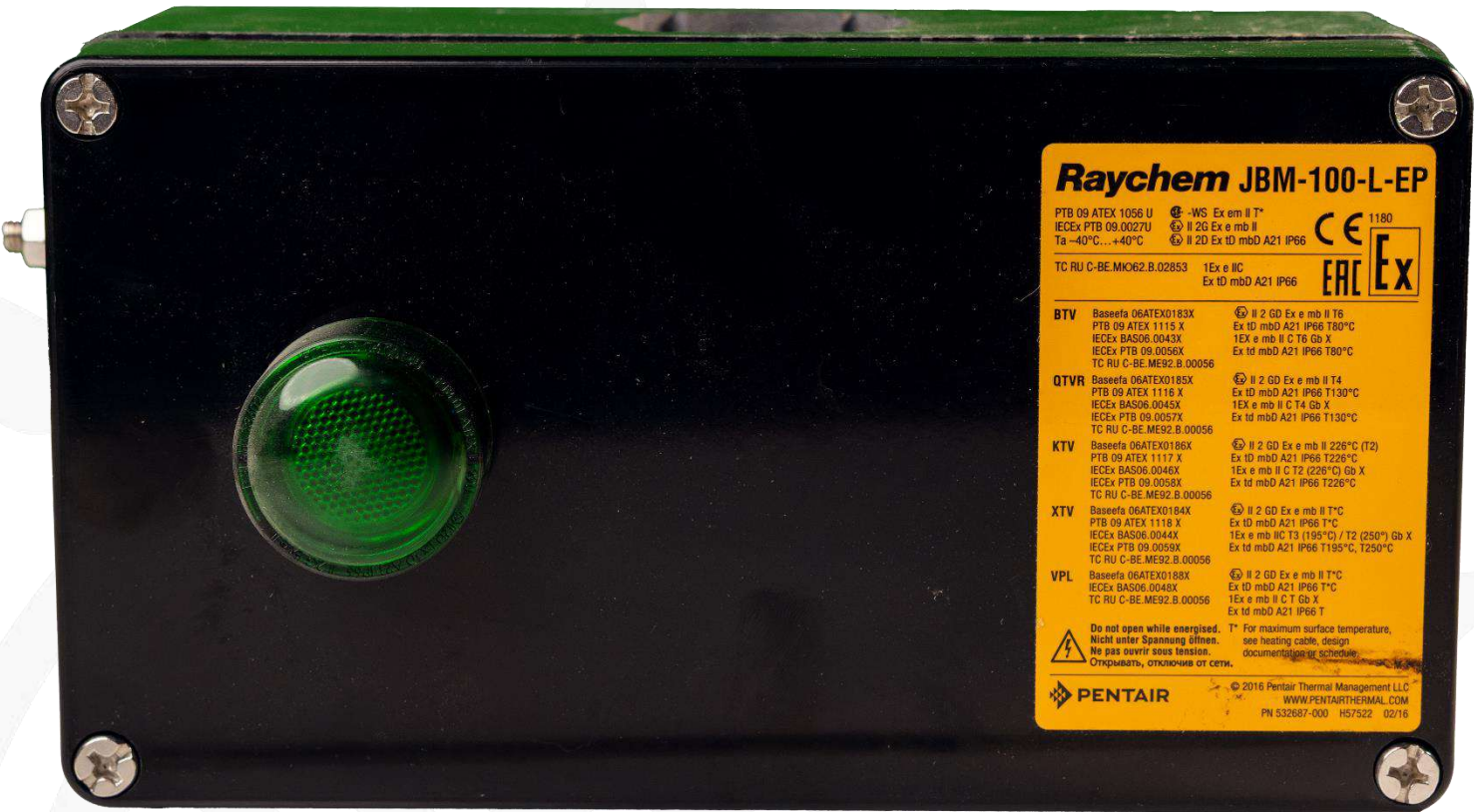
Cross section, terminals10 mm²

Glands, entry2 x M25

Voltage rating100 TO 277 Vac

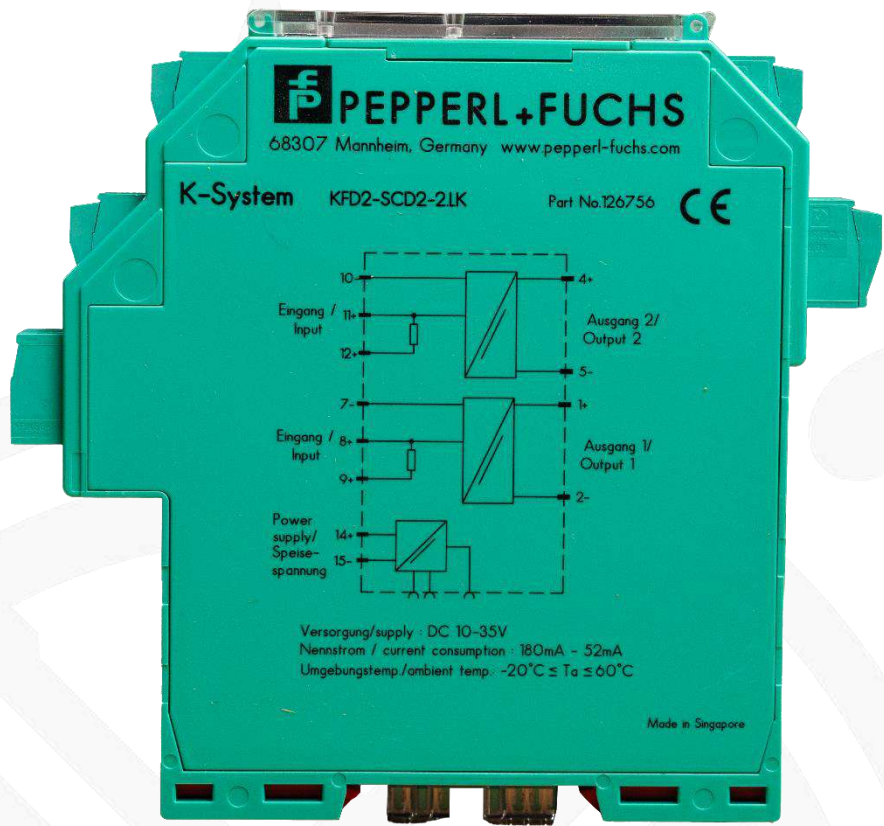
ManufacturerTYCO THERMAL

Manufacturer Part Number300273-000



128	Electrical cable accessories	
	Description*	
	Model	
	Diameter, pipe	
	Manufacturer	
	Manufacturer Part Number	

Safety barriers	
Type	SMART CURRENT DRIVER
Model number	KFD2-SCD2-2.LK
Type, signal	ANALOG OUTPUT
Number, channel	DUAL
Communication protocol	HART
Supply voltage	24 Vdc
Rated voltage	10 TO 35 Vdc
Power consumption	1.8 W AT 20 mA
Current rating	4 TO 20 mA
Temperature, operating	-20 TO +60 °C
Ingress protection	IP20
Dimension	20 x 124 x 115 mm
Type, mounting	DIN RAIL
Size, mounting	35 mm
Accuracy	0.05%
Manufacturer	PEPPERL+FUCHS
Manufacturer Part Number	126756



130

Electrical Parts

Part name*CARD

Equipment name*UPS CONTROL UNIT

Equipment model number*TBA

Equipment serial number*TBA

Additional informationCPHC16 RTB UNIV, 120 kVA, 6 OR 12, FOR SCR RECTIFIER, WITH HIGHER POWER, FOR SCR RECTIFIER

Old part numberFS1401

ManufacturerBORRI

Manufacturer Part NumberPB-FS1401



131

Electrical Parts

Part name*

AUXILIARY CONTACT

No of contact

1NO+1NC

Equipment name*

MINIATURE

CIRCUIT BREAKER

Equipment model number*

S261

Equipment serial number*

TBA

Configuration, contact

1NO+1NC

Add information

FOR S261

MINIATURE CIRCUIT

BREAKER

Manufacturer

ABB

Manufacturer Part Number

S2-H11



132

Circuit_breakers

Type, circuitbreaker

RESIDUAL

CURRENT

Pole, quantity

2

Current rating

25 A

Operation mode

INSTANTANEOUS

Voltage rating

230 / 400 V

Standard

IEC EN 61009 ANN. G

Capacity, interrupt

30 mA

Amperage, trip

TBA

Mounting

DIN RAIL

Model

DDA202 AC-25/0,03

EAN

8012542791102

Type, residual current

AC TYPE

Power loss

2 W

Certificates

RoHS AND CE

Object classification code

Q

Temperature range, operating

-25 TO +55 °C

Dimension	HGT 0.093 x WD
0.070 x	
Weight	DP 0.069 m
With device block	0.210 kg
Manufacturer	ABB LOW VOLTAGE
SYSTEMS	
Manufacturer Part Number	
2CSB202001R1250	



The image shows an ABB DDA202 AC circuit breaker, a compact, modular device used for protecting electrical circuits. It features a white plastic housing with a blue handle for manual operation. The device is mounted on a metal base with terminal blocks. Key specifications visible on the front include 'DDA202 AC', 'I_n = 0.03A', and a barcode with the number '450041'. The manufacturer's name 'ABB' is prominently displayed on a red band. The part number '2CSB202001R1250' is also visible at the bottom.



133

Electrical wires
Voltage N/A
Mat, conductor TBA
Colour, insulation RED
Diameter, od, overall N/A
Dimensions LG 50 m
Feature COATED
Manufacturer PRO-LOCK
Manufacturer Part Number WIRER50



134	Electrical heat tracing Model number HSB 30 Type HEATING CABLE, SELF LIMITING Classification, hazard areas ATEX: II 2G/D Ex e/tD (II) T3 Mat, outer sheath FLUOROPOLYMER Mat, braid TINNED COPPER Power supply 208 TO 254 Vac Temperature, cum exposure, max 190 °C Temperature, installation, min -60 °C Output 30 W/m AT 230 Vac Length, heating zone 114 m Dimensions 10.2 x 4.8 mm Manufacturer BARTEC Manufacturer Part Number 07-5803-230A	 A large spool of red electrical heat tracing cable. The cable is coiled tightly around a wooden spool, forming a cylindrical shape. The red sheath of the cable is prominent, and the spool is set against a plain white background.
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135	Industrial luminaires . Type WELL-GLASS Application TBA Ingress protection IP66 / 67 TO EN 60529 Classification, hazard areas II 2 G Ex d e IIB Type, lamp HPS Lampholder E27 Mounting TBA Mat, housing ALUMINIUM ALLOY Front glass TBA Reflector HIGH PURITY ANODISED ALUMINIUM Control gear CORRECTION CAPACITOR INTERNAL COPPER/IRON WITH PFC Cable entry 2 x M20 Dimensions TBA Power, rated 70 W Area classification GAS ONLY Temperature class T4 Temperature, ambient -50 TO +45 °C Installation FLUSH MOUNTING BRACKET Weight 10 kg Manufacturer CHALMIT LIGHTING Manufacturer Part Number 216D/070/HS	
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Electrical cable accessories

Description*	BULK WIRE LOOM
Color	BLACK
Diameter, inside	1 in
Size	300 ft
Manufacturer	CABLE ORGANIZER
Manufacturer Part Number	BFT100-300FT-BK



Electrical cable accessories

Description*	PATCH PANEL
Material	TBA
Size	19 in
Color	TBA
Type, panel	UTP
Category	5e
Wiring schemes	T 568 A AND T 568 B
Type, connector	RJ 45
Fitted with 24 connectors	
Manufacturer	LEGRAND
Manufacturer Part Number	0 335 51



Cable_assemblies		
Type, cable	HDMI TO HDMI	
Cross section, conductor	28 AWG	
Connector a	K-LOCK	
Connector b	K-LOCK	
Length	10.7 m	
	35 ft	
Rating, electrical	TBA	
Conductor, quantity	7	
Type*	TBA	
Outer diameter	7.3 mm	
Flame test	CL2	
Reference	10m	
Manufacturer	KRAMER	
ELECTRONICS		
Manufacturer Part Number	C-HM/HM-35	



Electrical wires	
Voltage	N/A
Mat, conductor	TBA
Colour, insulation	YELLOW
Diameter, od, overall	N/A
Dimensions	LG 50 m
Feature	COATED
Manufacturer	PRO-LOCK
Manufacturer Part Number	WIREY50



Electrical insulation sleeves	
Type	INSULATED CHAIN END
SLEEVE	
Application	TBA
Mat	TIN PLATED COPPER
Colour	GREY
Dimensions	3.2 x 9.0 x LG 16.0
mm	
Diameter, od, cable	4.8 mm
Form of supply	BAG OF 200 PIECE
	BOX OF 5000 PIECE
Size, conductor	4.0 mm ²
Mat, insulation	POLYPROPYLENE
Manufacturer	CEMBRE
Manufacturer Part Number	PKC 409



Luminaire accessories

Type*	ELECTRONIC BALLAST
Ratings*	TBA
Application	FLUORESCENT LAMP
Dimensions*	LG 280 x WD 30 x
HGT 21 mm	
Model number	PC 3/4x18 T8 PRO
Ip	
Type,lamp	T8
Voltage range	220 TO 240 V
Power raintg	18 W
Ingress protection	IP20
Manufacturer	TRIDONICATCO
Manufacturer Part Number	22185219



Variable_speed_drive_systems

Type	VARIABLE FREQUENCY
DRIVE	
Voltage rating*	500 TO 690 Vac
Current rating*	13 A
Power rating*	11 kW
Frequency*	TBA
Number of phase	3
Ingress protection*	IP21
Manufacturer	VACON
Manufacturer Part Number	NXS00136A2L0SSVA1A3B1B5C2



Electrical insulator

Type*	HANGING GLASS
INSULATOR	
Type, end connection*	N/A
Material*	N/A
Voltage rating*	6 TO 500 kV
Insulation level rating*	N/A
Diameter*	255 mm
Height*	146 mm
Size, end connection*	N/A
Phase	3
Frequency	50 Hz
mechanical breaking load, mini	70 kN
Creepage distance	303 mm
Weight	3.4 kg
Manufacturer Part Number	TO BE ADVISED BY VENDOR

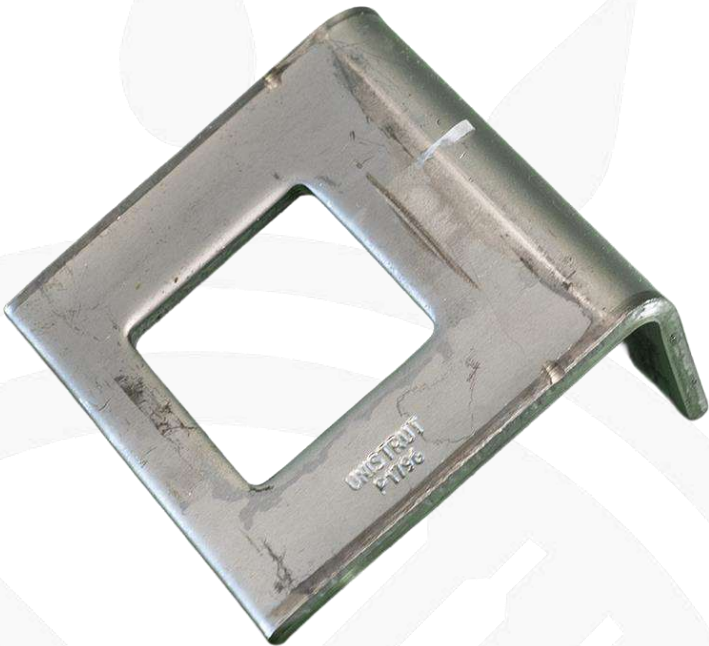


Fluorescent lamps	
Connection(s)	PLUG-IN 4-PIN
Ignition requirements	TBA
Voltage	TBA
Power, rated	55 W
Length	533 mm
Diameter	TBA
Colour temperature	3000 K
Colour rendering	85
Lumen flux, average	4800 lm
Model	Lynx LE
Width	44 mm
Life	1000 h
Manufacturer	OSRAM SYLVANIA
Manufacturer Part Number	925464



Cable_tray_accessories

Description	BEAM CLAMP
Material	STAINLESS STEEL
Dimensions	45 x 90 x 90 x 5 mm
Complete with	M10 x 40 mm SS
CONE-POINTED SCREW	
Manufacturer	UNISTRUT
Manufacturer Part Number	P1796-SS



Rechargeable batteries	
Type	VALVE REGULATED
Electrochemical system	LEAD-ACID
Type, electrolyte	TBA
Voltage	12 V
Terminals	B2-L
Mat, container	TBA
Capacity	40 A.h
Height	170 (+/-2) mm
Width	165 (+/-2) mm
Length	197 (+/-2) mm
Number of cell	6
Manufacturer	CSB BATTERY
Manufacturer Part Number	GP12400



Transformer	
Type*	ISOLATING
Voltage, input*	TBA
Voltage, output*	TBA
Power, output*	TBA
Ingress protection*	TBA
Phase, quantity*	TBA
Manufacturer	SIEMENS
Manufacturer Part Number	4AV3200-2EB00-0A



Electrical cable accessories

Description*	LONG SPRING
CHANNEL NUT	
Finish	HOT-DIP GALVANIZED
Size	M6
Thickness	6.5 mm
Weight	0.03 Kg
Manufacturer	UNISTRUT
Manufacturer Part Number	PNL06-HG



149

Electrical Parts
Part name* ELECTROLYTIC
CAPACITOR
Ratings 550 V
Equipment name* FREQUENCY
CONVERTER VACON
Equipment model number* NXS0041
(37kW-41A)
Equipment serial number* 10254143
Additional information:
Capacitance 1800 µF
Old part number 60S00938
Old Manufacturer VACON
Manufacturer DANFOSS
Manufacturer Part Number SPR-ELE14697



150

Ind. power distribution elec. plugs
Design spec CEE 17, IEC 309-2
Application HAZARDOUS AREAS
Classification, hazard areas 50019 ZONE 1
CENE EN 50 EEX DE IIC T6
CENELEC EN 50018

CENELEC EN
Ingress protection IP66 EN 60529
Voltage, rated 200 TO 250 V
Certif, ec type examination TBA
Poles 2 + EARTH
Construction INTERLOCKING
Mat, enclosure IMPACT PROOF
INSULATING
Current, rated 16 A
Contact SELF CLEANING
NICKEL PLATED
Colour BLUE
Fuse 16A
Manufacturer CEAG
Manufacturer Part Number
GHG5117306R0001

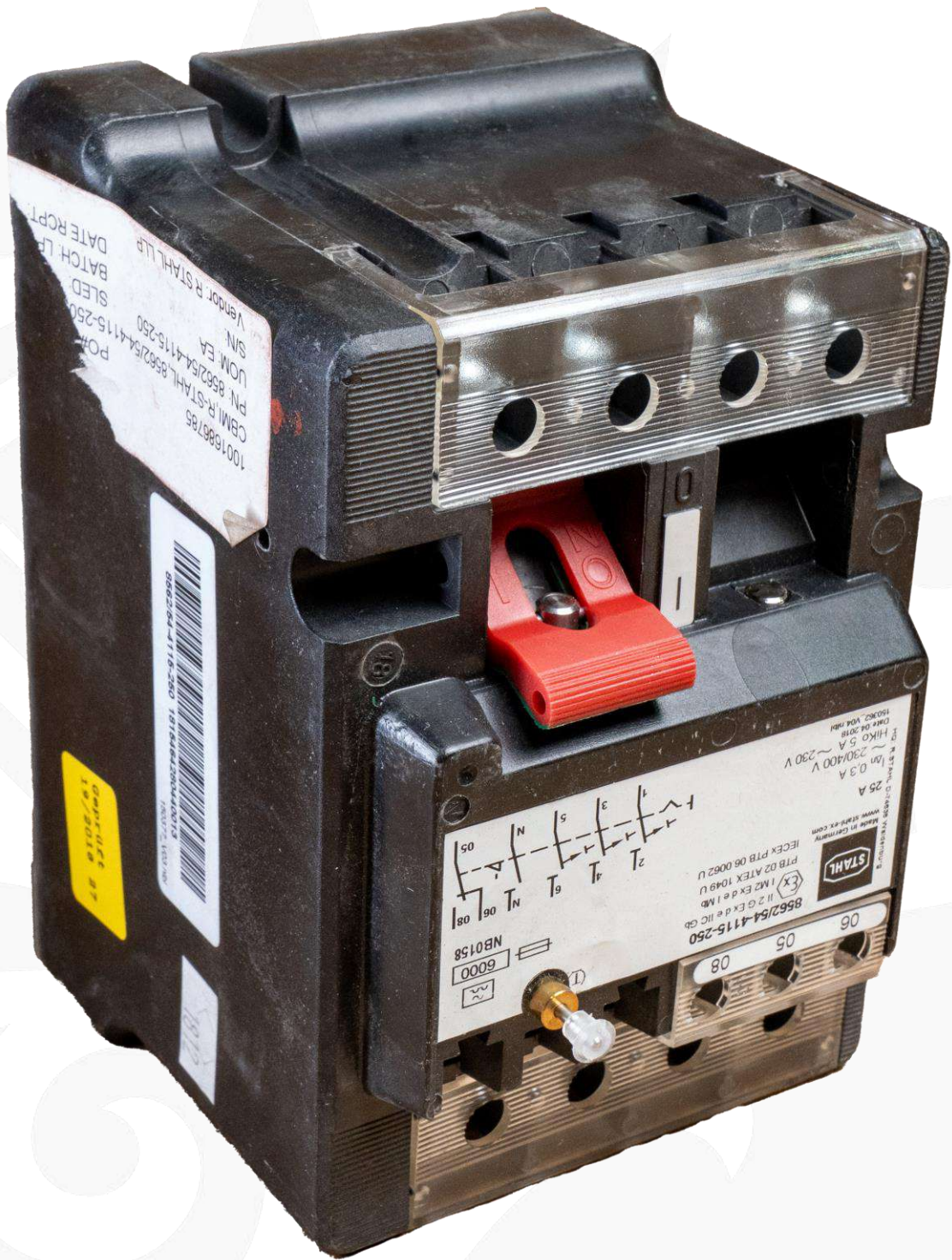


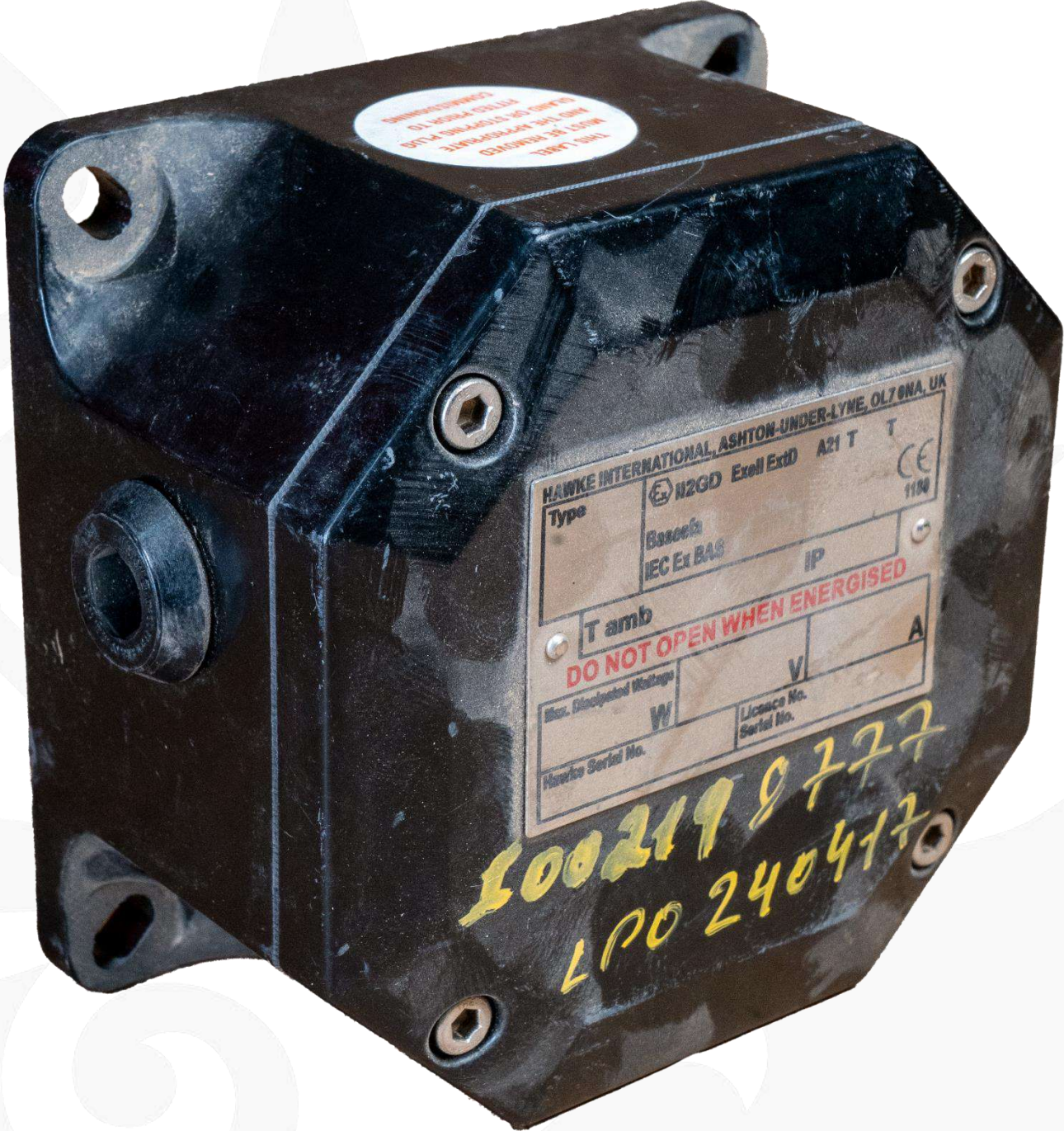
151	Circuit_breakers
Type, circuitbreaker	MINIATURE
Pole, quantity	1 P + N
Current rating	20 A
Operation mode	TBA
Voltage rating	133 TO 230 V
Standard	TBA
Capacity, interrupt	10 kA
Amperage, trip	TBA
Mounting	DIN RAIL
Series	FI/LS
Residual current	30 mA
Tripping characteristic	C
Width	72 mm
With over load protection	
Manufacturer	R. STAHL
SCHALTGERATE	
Manufacturer Part Number	8562/53-5275-200



152

Circuit_breakers
Type, circuitbreaker MINIATURE
Pole, quantity 4
Current rating 25 A
Operation mode TBA
Voltage rating 400 Vac
Capacity, interrupt 0.3 A
Amperage, trip TBA
Mounting TBA
Series 8562
Type of curve N
Manufacturer R. STAHL
SCHALTGERATE
Manufacturer Part Number 8562/54-
4115-250



153	Electrical cable connection boxes Type JUNCTION BOX Application HARSH AND HAZARDOUS Classification, hazard areas EXE II 2 GD EXE II ExtD Ingress protection IP66 / 67 TO IEC/EN 60529 Mat GLASS REINFORCED POLYESTER Dimensions 120 x 120 x 75 mm Glands, entry TBA Voltage rating TBA Operating Temperature Range -60 TO +75°C Deluge protection DTS01 Temperature class and ambient T6 40°C, OPTIONAL T5 WITH AMBIENTS UPTO 65°C Construction and test standard IEC/EN 60079-0 IEC/EN 60079-7 IEC/EN 61241-0 AND IEC/EN 61241-1 PL612 assembly instruction Sheet AI 273 ZPL612 assembly instruction Sheet AI 273 Increased Safety II 2 GD Exe II ExtD PL612 Certifi cate Nos:Baseefa06ATEX0117X and IECEx BAS 06.0028X Suitable for use in zone 1, Zone 2, zone 21 and zone 22 Manufacturer HAWKE INTERNATIONAL Manufacturer Part Number PL612	
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Contactors	
Voltage, line	TBA
Current rating	170 A
Voltage, coil	220 TO 230 V
Power rating	TBA
Enclosure	TBA
Configuration, contact	TBA
Pole, quantity	TBA
Frequency	50 Hz
Standard, industry	TBA
Model	A50-30-00
Manufacturer	ABB
Manufacturer Part Number	1SBL351001R8000



155

Cable_tray_accessories	
Description	EARTH CONTINUITY
CONNECTOR	
Type	LIGHT DUTY
Material	COPPER
Size, conductor	4 mm ²
Coating	ELECTROLYTICALLY
TIN PLATED	
Standard	BS 6017:1981, BS
4109	
Length	93 mm (HOLE
CENTRE)	
Manufacturer	LEGRAND
Manufacturer Part Number	PTFEB



Electrical cable connection boxes

Type JUNCTION BOX

Manufacturer model number JBU-100-EP

Application MODULAR SYSTEM

Classification, hazard areas ATEX: Ex II 2D/G

Ex e II

Ingress protection IP66

Mat GLASS FIBER

REINFORCED POLYMER

Dimensions 16 x 16 x 90 mm

Cross section, terminals 10 mm²

Glands, entry 4 x M25

Voltage rating TBA

Current rating 40 A

Voltage rating 480 Vac

Manufacturer RAYCHEM

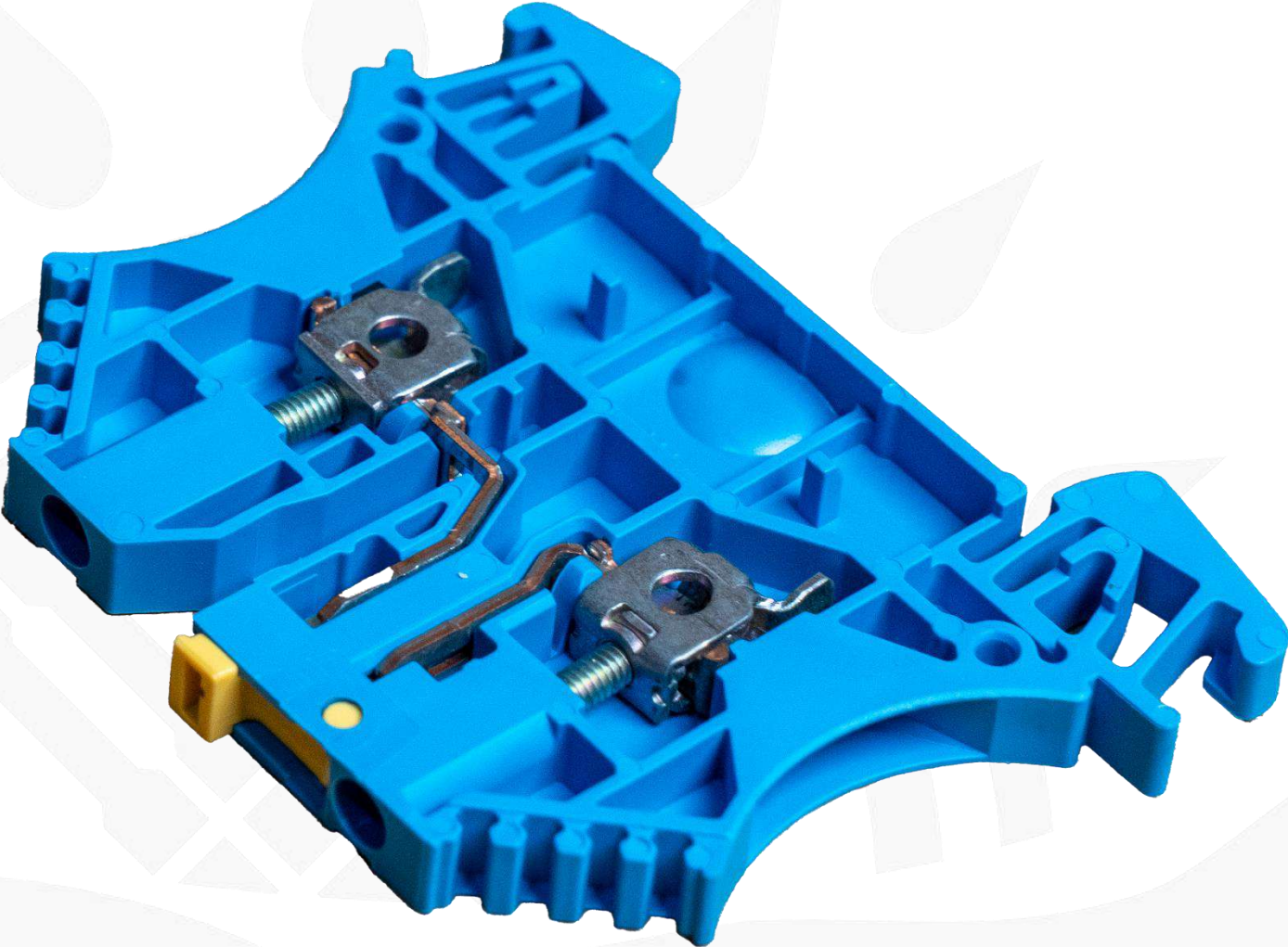
Manufacturer Part Number 243948-000



157

Cable_tray_accessories
Description BEAM CLAMP
Material STEEL PLATE
Mat, spec ASTM A575
Mat, finish STAINLESS STEEL 316
Manufacturer UNISTRUT
Manufacturer Part Number P1272-SS



158	Rail mounted terminals and accessories TypeTEST DISCONNECT TERMINAL ModelWTR 2.5 BL Type, terminalSCREW Type, mountingTS 35 RAIL MaterialWEIMID ColorBLUE Rated surge voltage6 kV Voltage rating500 V Current rating24 A Number of contacts2 Cross section, wire0.5 TO 2.5 mm² Dimensions (w x l x h)5.1 x 48 x 60 mm ManufacturerWEIDMUELLER Manufacturer Part Number8731640000	
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Circuit_breakers	
Type, circuitbreaker	MINIATURE
Pole, quantity	2
Current rating	16 A
Operation mode	TBA
Voltage rating	400 Vac
Standard	CSA 22.2 N0. 235 IEC/EN 60898-1 IEC/EN 60947-2 UL 1077
Capacity, interrupt	25 kA
Amperage, trip	TBA
Mounting	DIN RAIL
Model	S202P-C16
EAN	4016779590440
Frequency	50 / 60 Hz
Rated impulse withstand voltage	4 kV 5 kV AT 2000 m 6.2 kV AT SEA LEVEL
Rated insulation voltage	440 V
Ingress protection	IP20
Temperature range, operating	-25 TO +55 °C
Temperature range, storage	-40 TO +70 °C
Dimensions	HGT 88 x WD 35 x DP 69 mm
1. With residual current device:	
Model	DDA202 A-25/0,3
EAN	8012542796008
Rated residual current	300 mA
Dimensions	HGT 0.093 x WD 0.070 x DP 0.069 m
Equipment manufacturer	JV SKEMA-TOZZI
Manufacturer	ABB
Manufacturer Part Number	S202P C16 + DDA202 A 25A 300MA



160

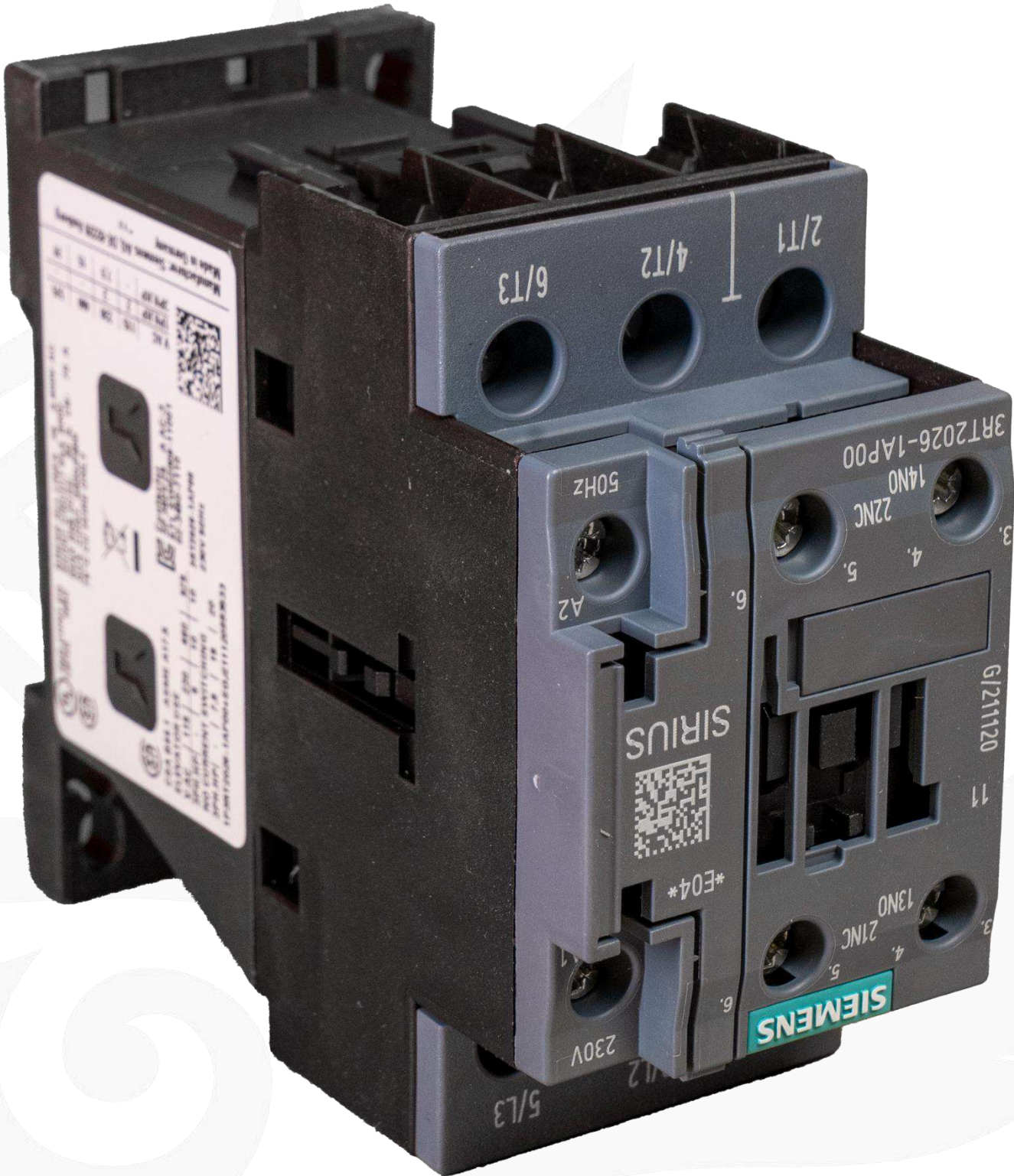
Cable terminals	
Type	TEST DISCONNECT
Material	WEMID
Cross section, conductor	2.5 mm ²
Color	DARK BEIGE
Model	WTR 2.5
Height	60 mm
Width	5.1 mm
Depth	49 mm
Manufacturer	WEIDMUELLER
Manufacturer Part Number	1855610000



161	Electrical switches
Type	ON/OFF
Mounting	TBA
Voltage, rated	250 V
Poles	2
Current, rated	16 A
Enclosure material	POLYAMIDE
Weight	0.32 kg
Marking to 94/9/EC	Ex II 2 G Ex de IIC T6 /
	Ex II 2 D ExtD A21
Ingress protection	IP66
Temperature	80 °C
EC-type examination certificate	PTB 98 ATEX 3121
IECEX certificate of conformity	IECEX BKI 07.0036
Marking acc. IECEX	Ex ed IIC T6
	Ex tD A21 IP66 T67 °C
Ambient temperature	-20 TO +40 °C
	-55 TO +55 °C (OPTION)
Frequency range	50 TO 60 Hz
Connecting terminals:	
Switch terminal	2 x 2.5 mm ²
PE-terminal	4 x 2.5mm ²
Cable glands:	
Classification hazards area	Ex-e
Size	2 x M25
Diameter, cable	8 TO 17 mm
Thread size	M20
Manufacturer	COOPER CROUSE
HINDS	
Manufacturer Part Number	GHG 273
2000 R0018	



Contactors	
Voltage, line	400 V
Current rating	40 A
Voltage, coil	230 Vac
Power rating	11 kW
Enclosure	TBA
Configuration, contact	1 NO + 1 NC
Pole, quantity	3
Frequency	TBA
Standard, industry	TBA
Type, terminal	SCREW
Ambient temperature, operation -25 TO +60 °C	
Ingress protection	IP20
Size	S0
Brand	SIRIUS
Supplier name	RENCO S.P.A.
Manufacturer	SIEMENS
Manufacturer Part Number	
3RT20261AP00	

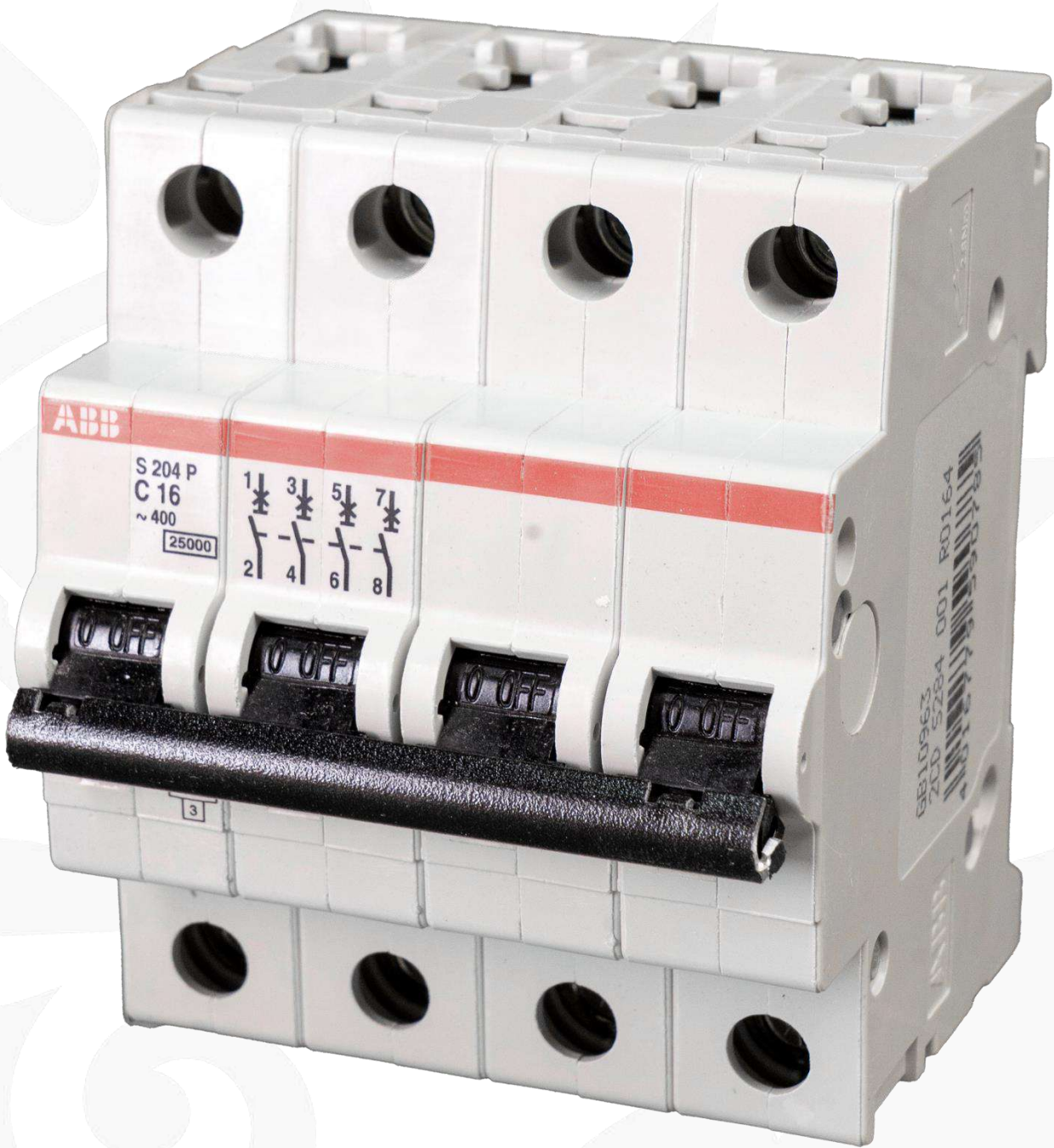


163

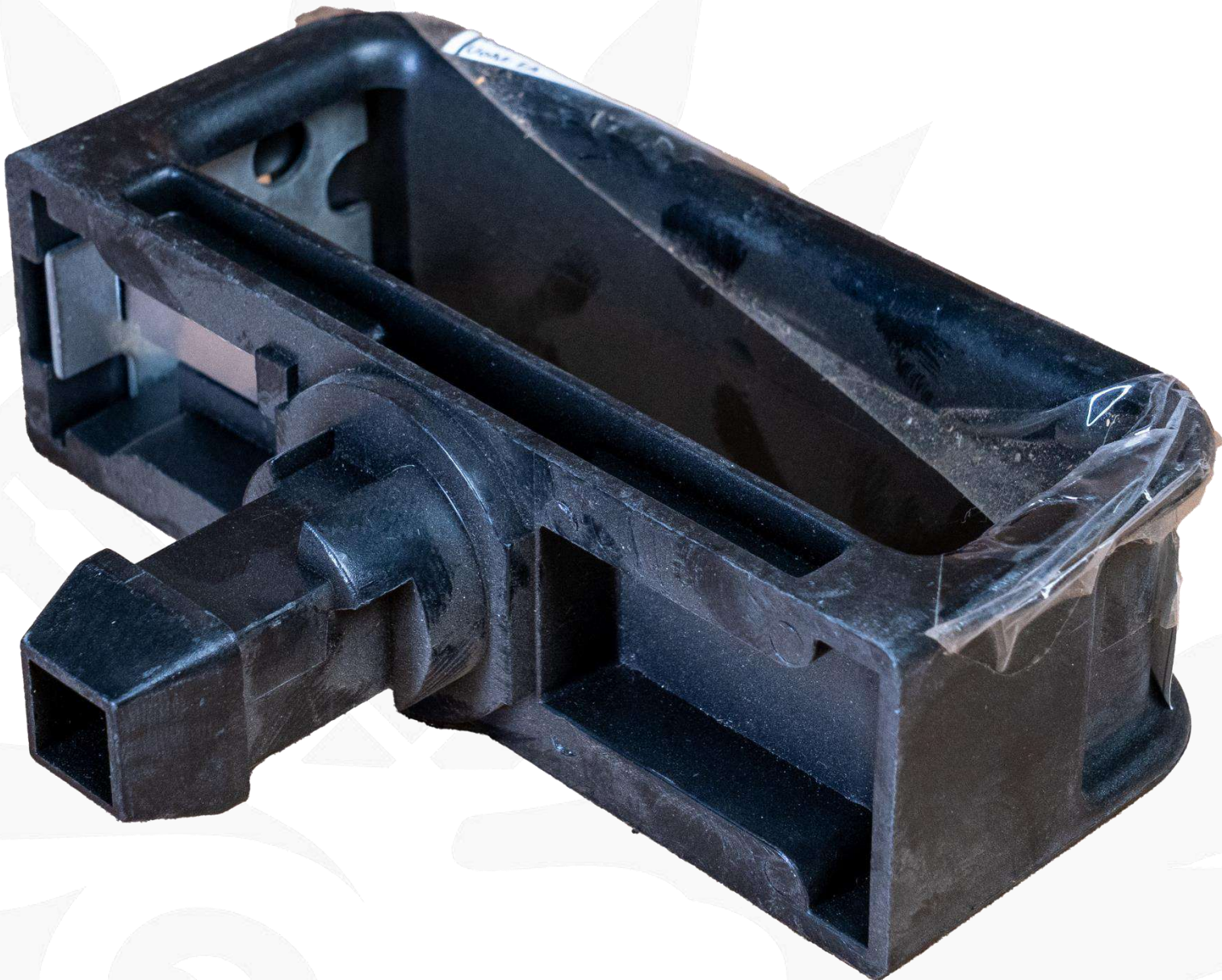
Ind. power distribution elec. plugs
Classification, hazard areas II 2 GD EEx ed
IIC T6
Ingress protection IP66
Voltage, rated 220 TO 240 V
Certif, ec type examination TBA
Poles 2P + E
Mat, enclosure TBA
Current, rated 16 A
Position, earth contact TBA
Frequency 50 / 60 Hz
Series 8575
Color BLUE
Reference 8575020090
Dimensions 159 x 58.5 x 43.5
mm
Weight 0.35 kg
Manufacturer R. STAHL
SCHALTGERATE
Manufacturer Part Number 8575/12-306



Circuit_breakers	
Type, circuitbreaker	MINIATURE
Pole, quantity	4
Current rating	16 A
Operation mode	TBA
Voltage rating	400 Vac
Standard	CSA 22.2 N0. 235
	IEC/EN 60947-2
	IEC/EN 60989-1
	UL 1077
Capacity, interrupt	25 kA
Amperage, trip	TBA
Mounting	DIN RAIL
Model	S204P-C16
EAN	4016779590785
Type	S200P
Tripping characteristic	C
Frequency	50 / 60 Hz
Rated impulse withstand voltage	4 kV
	6.2 kV AT SEA LEVEL
	5 kV AT 2000 m
Rated insulation voltage	440 V
Ingress protection	IP20
Temperature range, operating	-25 TO +55 °C
Temperature range, storage	-40 TO +70 °C
Reference	S590785
Dimensions	HGT 88 x WD 70 x
DP 69 mm	
Equipment manufacturer	FORES
ENGINEERING S.R.L	
Manufacturer	ABB
Manufacturer Part Number	
2CDS284001R0164	



Electrical Parts
Part name* HANDLE
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Additional information GROUP
CONTROL
Manufacturer SKEMA
Manufacturer Part Number MN1108265
+ MN1351613 + MN1351611 (X2)



Rail mounted terminals and accessories

Type AUXILIARY FEED-
THROUGH WDU 4

TERMINAL BLOCK

Type, terminal SCREW

Type, mounting DIN RAIL

Material WEIMID

Colour BEIGE

Cross section 4 mm²

Voltage rating 800 V

Current rating 32 A

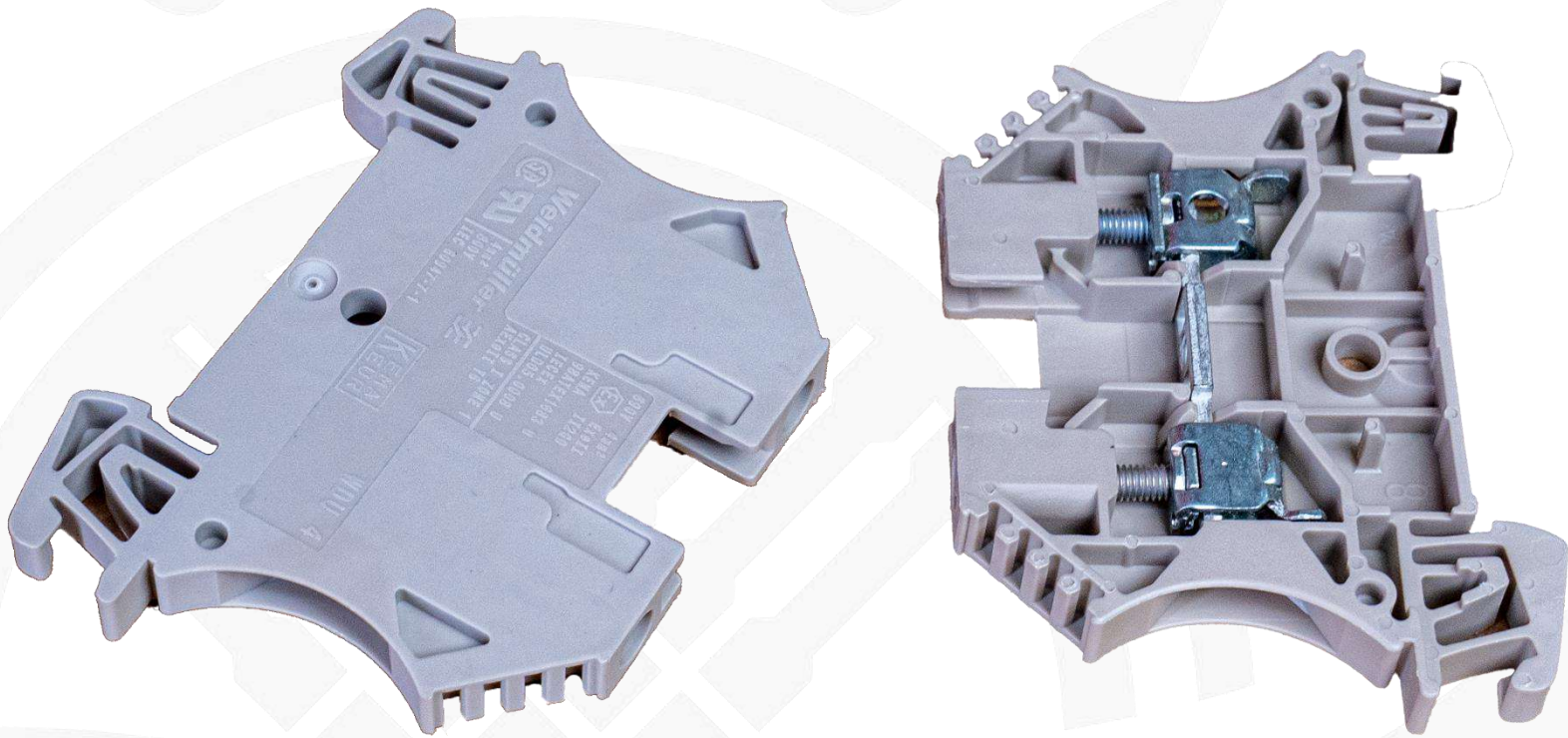
Temperature, operating -50 TO +120 °C

Number of contacts 2

Form of supply 100 PIECES/PACK

Manufacturer WEIDMUELLER

Manufacturer Part Number 1020100000



167

Mechanical Rotary Parts
Part name* OIL FILTER
CARTRIDGE
Equipment name* GENERATOR
Equipment model number* TBA
Equipment serial number* TBA
Manufacturer IVECO MOTORS
Manufacturer Part Number 2992242



168

Accessories for heat tracing	
Description*	CONNECTION KIT
Application	TESL AND TESXL
HEATING CABLES	
Voltage rating*	750 V
Current rating*	50 A
Temperature rating	-60 TO +260 °C
Mounting*	TBA
Ingress protection*	IP66
Model number	CKTES-2
Cable range	17.8-8000 Ohm/km
Manufacturer Old Part Number	420.000.102
Manufacturer	THERMON
MANUFACTURING	
Manufacturer Part Number	40-420.000.102



Cable glands
Classification, hazard areas Ex d IIC Gb
 Ex e IIC Gb
 Ex tb IIIC Db
Type, cable ELASTOMER, PLASTIC
INSULATED
 NON-ARMOURED
Mat, glands STAINLESS STEEL
Sealing area(s) OUTER SHEATH
Ingress protection IP66/IP67/IP68
 NEMA 4X
Size, thread M20
Length, thread 15 mm
Size Os
Threaded, fixing component METRIC
Diameter, od, cbl o/s, max TBA
Type COMPRESSION
Series 501/421
Manufacturer HAWKE
INTERNATIONAL
Manufacturer Part Number
501/421/OS/M20/S



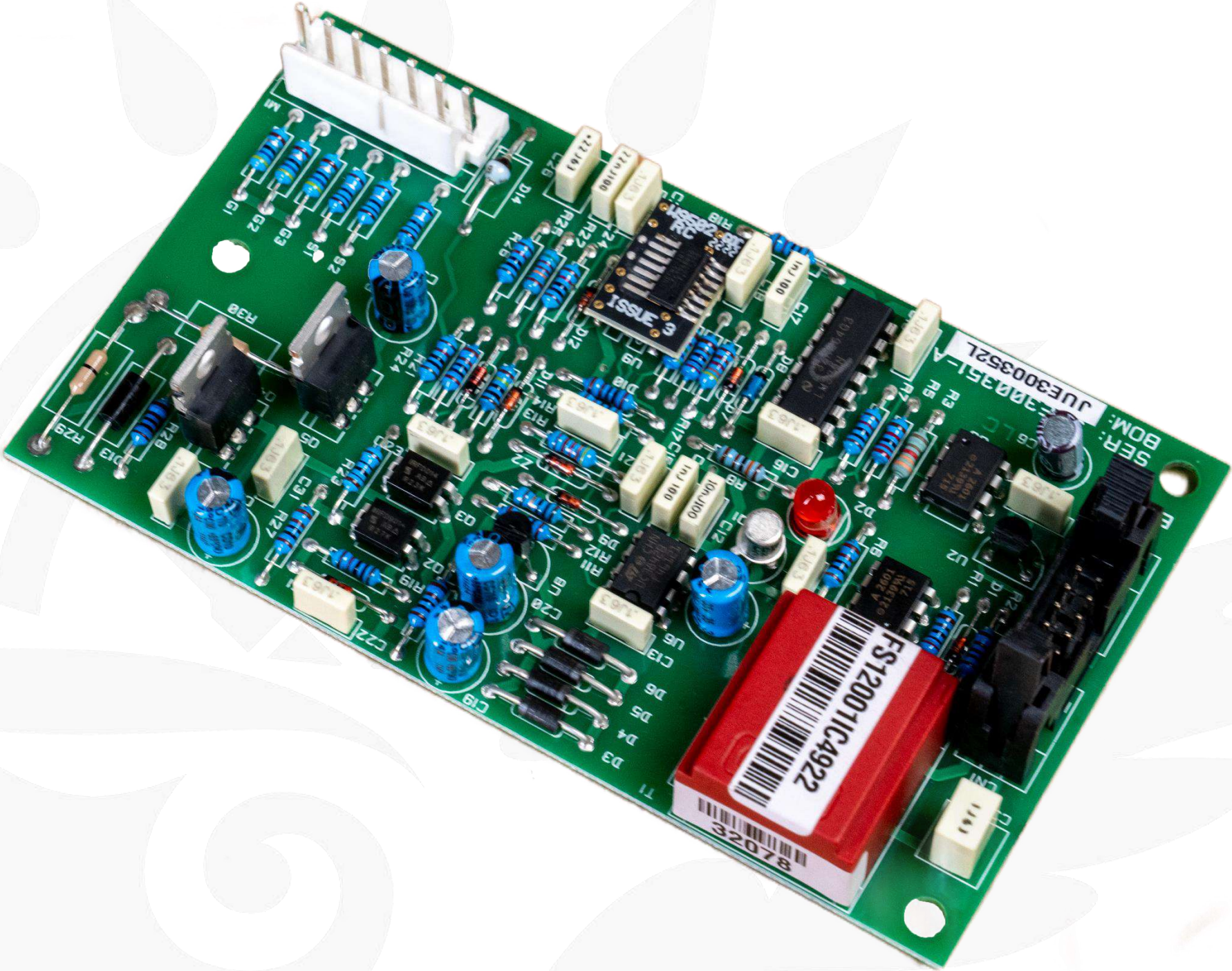
170	Cable_assemblies Type, cable PATCH CORD UNSHIELDED TWISTED PAIR CAT5E Cross section, conductor TBA Connector a RJ45 Connector b RJ45 Length 10 m Rating, electrical TBA Conductor, quantity TBA Type* PLUG Color BLUE Insulator PVC (POLYVINYL CHLORIDE) Manufacturer WEIDMUELLER Manufacturer Part Number 7940031431	
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171

Accessories for heat tracing
Description* PIPE STRAP
Outer diameter, pipe 60 TO 288 mm
Material STAINLESS STEEL (AISI 430)
Item name PSE-280
Brand nVent
For pipe mounting of integrated power connections
Manufacturer RAYCHEM
Manufacturer Part Number 664775-000



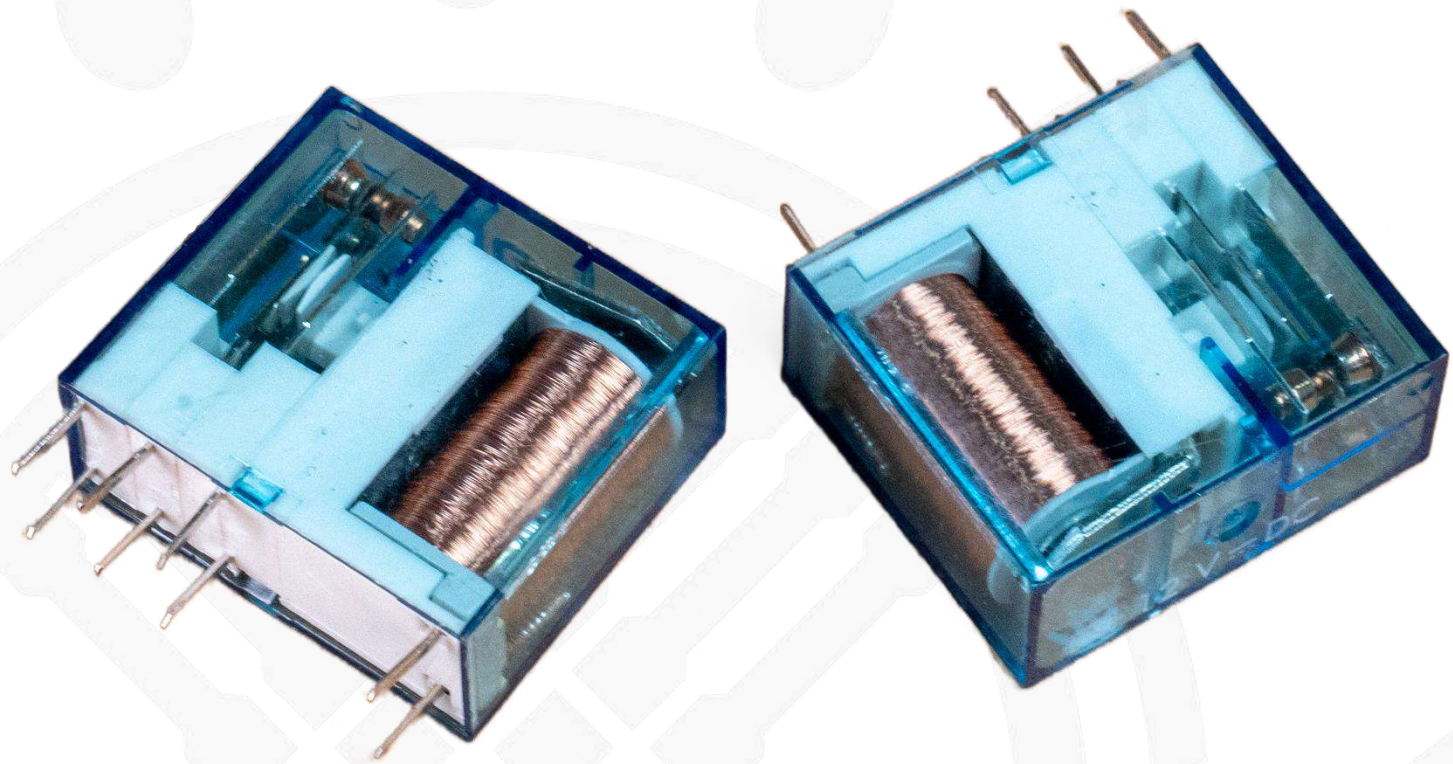
Electrical Parts
Part name* CARD
Equipment name* UPS CONTROL UNIT
Equipment model number* TBA
Equipment serial number* TBA
Additional information:
Type IGD-50
Old part number FS1200
Manufacturer BORRI
Manufacturer Part Number PB-FS1200



173

Electrical relays

Voltage	250 Vac
Amperage	8 A
Number, contacts	2 CO (DPDT)
Type	MINIATURE PCB
Series	40.52
Contact pitch	5 mm
Number of poles	2
Contact circuit	CO (nPDT)
Contact configuration	2 CO (DPDT)
Dimension	29 x 12.4 x 25 mm
Voltage rating, coil	230 Vac
Manufacturer	FINDER
Manufacturer Part Number	40.52.8.230.00.00



174	Cable glands Classification, hazard areas Ex d IIC Gb Ex e IIC Gb Ex nR IIC Gc Ex tb IIIC Db Type, cable ELASTOMER, PLASTIC INSULATED SINGLE WIRE ARMOURED STEEL TAPE ARMOURED WIRE BRAIDED Mat, glands NICKEL PLATED BRASS Sealing area(s) INNER AND OUTER SHEATH Ingress protection IP66/IP67/IP68 Size, thread M25 Length, thread 15 mm Diameter, od, cbl i/s, max 11.1 TO 19.7 mm Diameter, od, cable armour,max 0 TO 0.7 mm Diameter, od, cable, min - max 1.25 TO 1.6 mm 16.9 TO 26 mm Application INDOOR / OUTDOOR Size M25 Diameter, od, cbl o/s, max TBA Type UNIVERSAL Complete with: 1. Nickel plated brass locknut 2. Nickel plated brass earth tag 3. Nylon sealing washer 4. Stainless steel serrated washer Manufacturer HAWKE INTERNATIONAL Manufacturer Part Number 501/453/UNIV/B/M25(C/W NUT,TAG,WASHER)	
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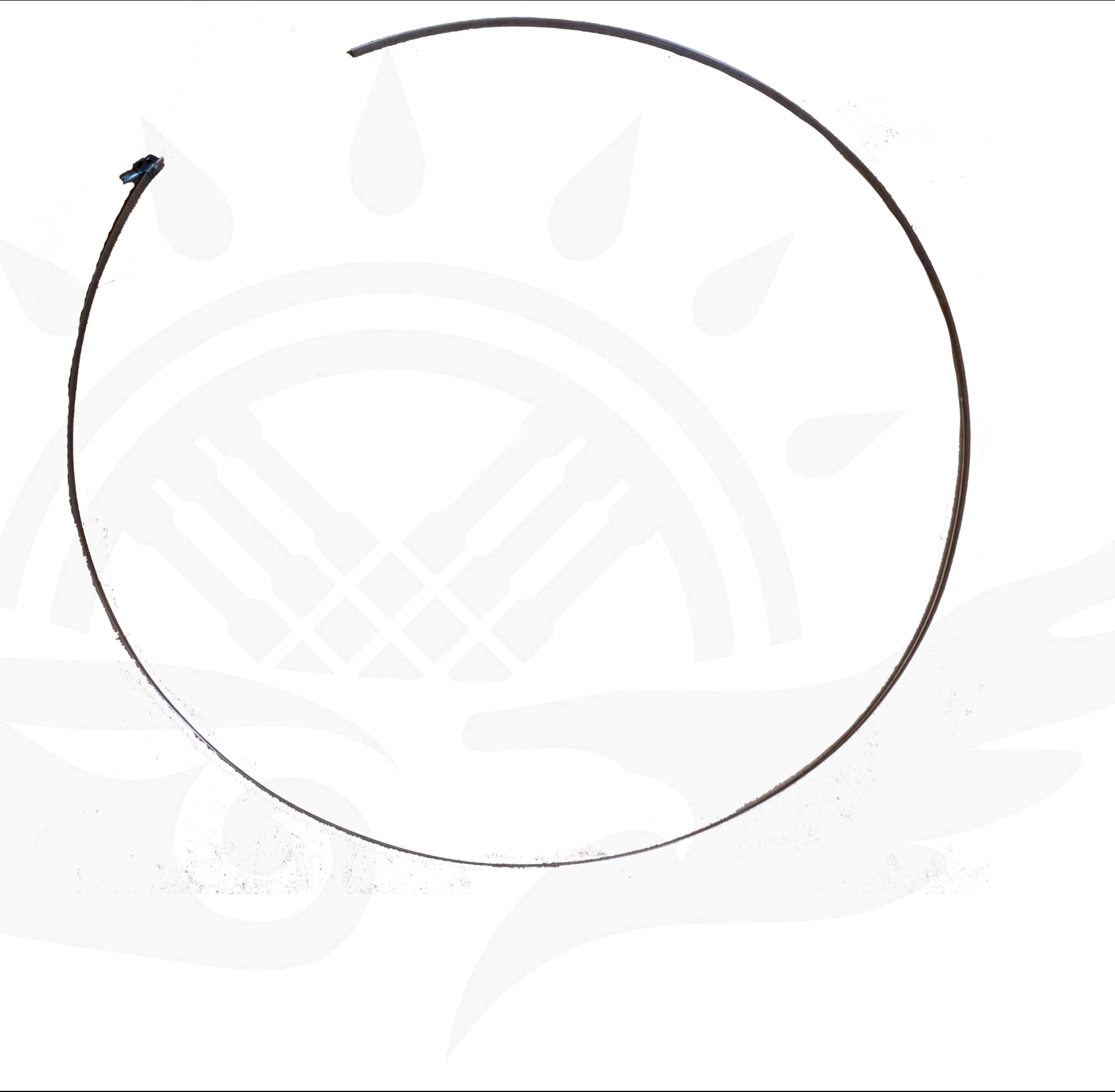
175

Accessories for heat tracing

Description*	PIPE STRAP
Voltage rating*	TBA
Current rating*	TBA
Temperature rating	TBA
Mounting*	TBA
Ingress protection*	TBA
Model	PSE-540
Material	STAINLESS STEEL
Outer diameter, pipe	60 TO 540 mm
	2 TO 20 in

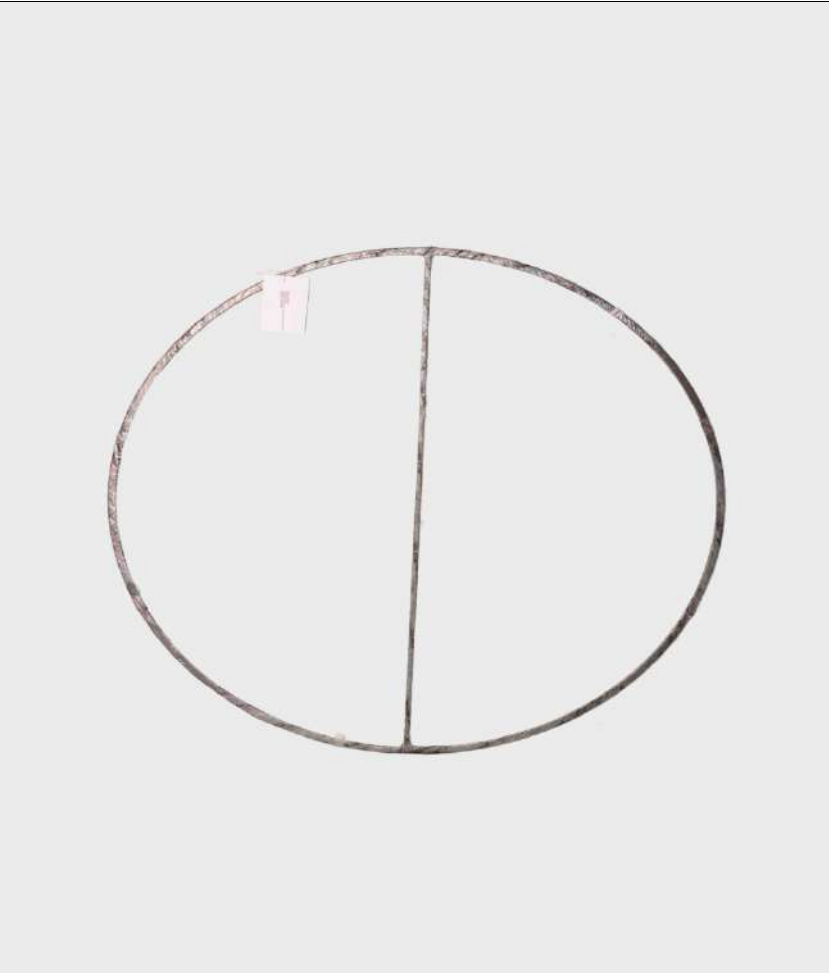
For pipe mounting of integrated power connections

Manufacturer	PENTAIR
Manufacturer Part Number	364489-000



ROTATING		
176	Metal grooved gaskets for plant element TypeSOLID FLAT Type of gasket shapeCIRCULAR Type of gasket profileKEMPCHEN B7A OR EQUAL Mat, layersGRAPHITE Mat, grooved profileSTAINLESS STEEL 316 Inspection, certifISO 10474-2.1 Thickness, total4 mm Grooved ring, i.d. x o.d.1040 x 1060 mm Equipment nameINLET OIL EXCHANGER Equipment part number4931GK00000004 Specific requirement: This Gasket must have internal profile as shown in GA drawing Reference to drawingKE01-A1-PPFM602-F01-0004-001 Position in Drawing:ITEM 25 	

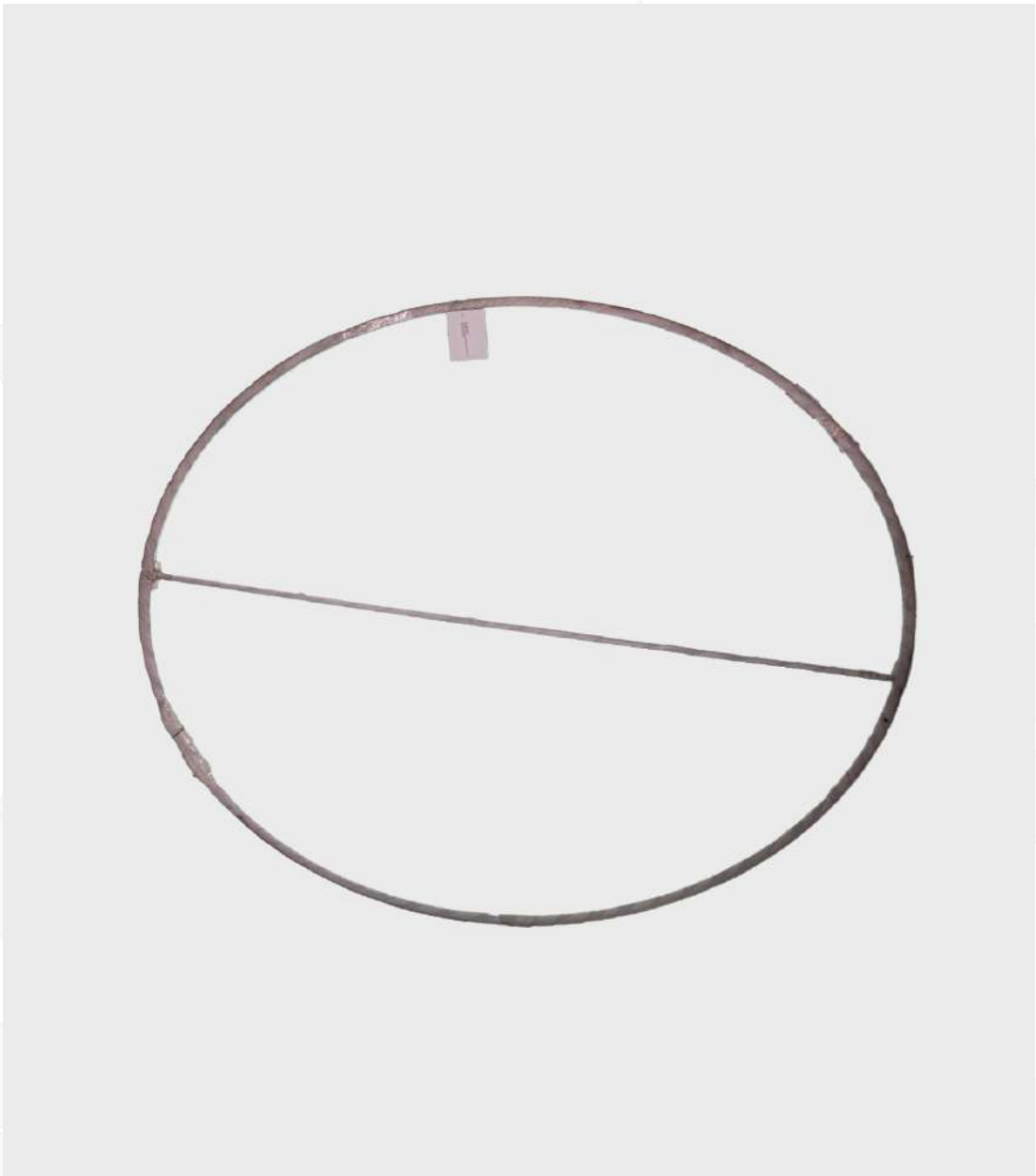
177	Metal grooved gaskets for plant element Type of gasket profile KEMPCHEN STYLE B7A Mat, layers GRAPHITE Mat, grooved profile STAINLESS STEEL Thickness, total 4 mm Grooved ring, i.d. x o.d. 1610 x 1650 mm Thickness, ring (mm 3 mm Equipment name AMINE REGENERATION REBOILER Equipment part number 4931GK00000018 Specific requirement: This Gasket must have internal profile as shown in GA drawing Reference to drawing KE01-A1-PPFM607-B01-0001-001 KE01-A1-PPFM607-F01-0001-001 Position in Drawing ITEM 10	
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178	Metal grooved gaskets for plant element Type SOLID FLAT Type of gasket shape CIRCULAR Type of gasket profile KEMPCHEN STYLE B7A OR EQUAL Mat, layers GRAPHITE Mat, grooved profile STAINLESS STEEL 316 Inspection, certif ISO 10474-2.1 Thickness, total 4 mm Grooved ring, i.d. x o.d. 1090 x 1120 mm With centre bar	
179	Metal grooved gaskets for plant element Type SOLID FLAT Type of gasket profile KEMPCHEN STYLE B7A OR EQUAL Mat, layers GRAPHITE Mat, grooved profile STAINLESS STEEL 316 Thickness, total 4 mm Grooved ring, i.d. x o.d. 1116 x 1146 mm Width, central bar 10 mm Application SHELL AND TUBE SIDE Equipment name: INLET OIL EXCHANGER Equipment part number 4931GK00000003 Specific requirement: This Gasket must have internal profile as shown in GA drawing Reference to drawing KE01-A1-PPFM602-F01-0001-001 Position in Drawing ITEM 14	

Metal grooved gaskets for plant element

Type CAMPROFILE
Type of gasket shape CIRCULAR
Type of gasket profile KEMPCHEN B7A
OR EQUAL
Mat, layers GRAPHITE
Mat, grooved profile STAINLESS STEEL
316
Mat spec, grooved profile AISI 316
Thickness, total 4 mm
Dimension, length x width 10 mm
Grooved ring, i.d. x o.d. 1610 x 1650 mm
Thickness, ring (mm 2 mm

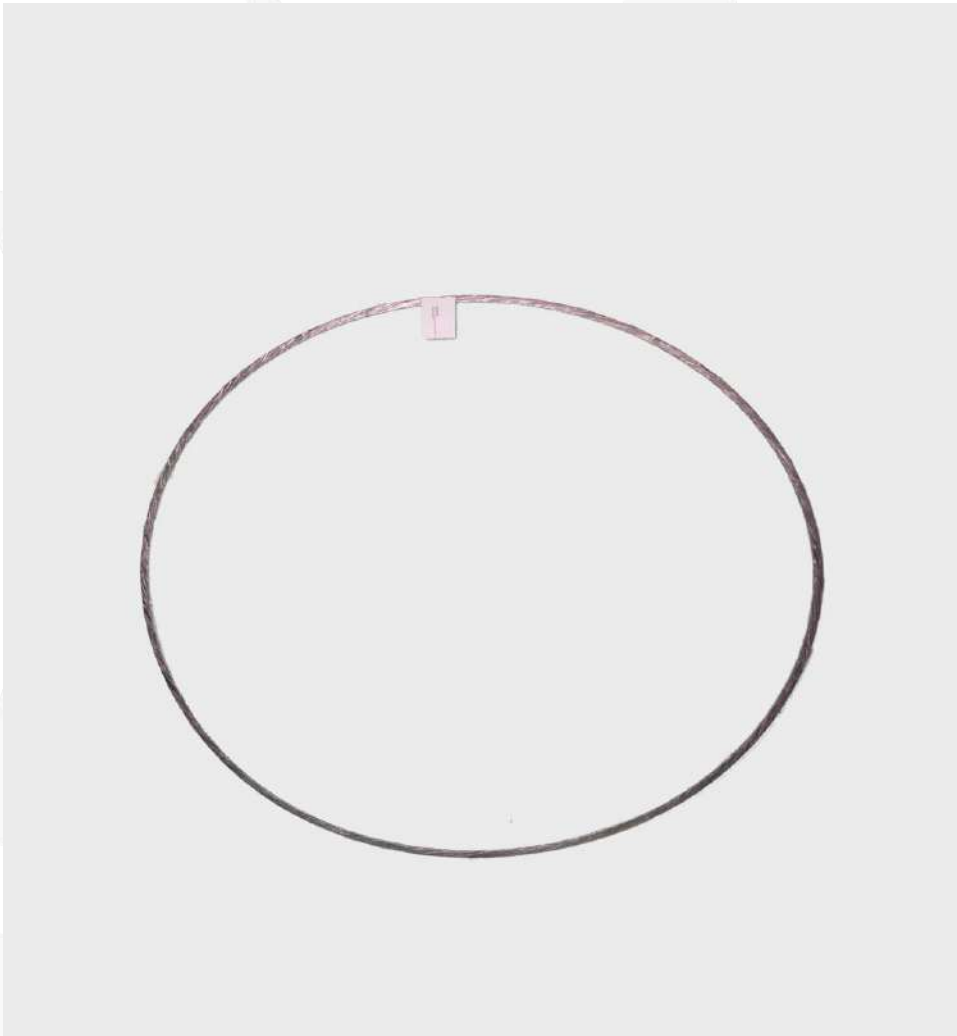
With spring line
Equipment name AMINE
REGENERATION REBOILER
Equipment part number
4931GK00000019
Specific requirement:
This Gasket must have internal profile as
shown in GA drawing
Reference to drawing KE01-A1-
PPFM607-B01-0001-001
KE01-A1-PPFM607-F01-
0001-001
Position in Drawing: ITEM 12

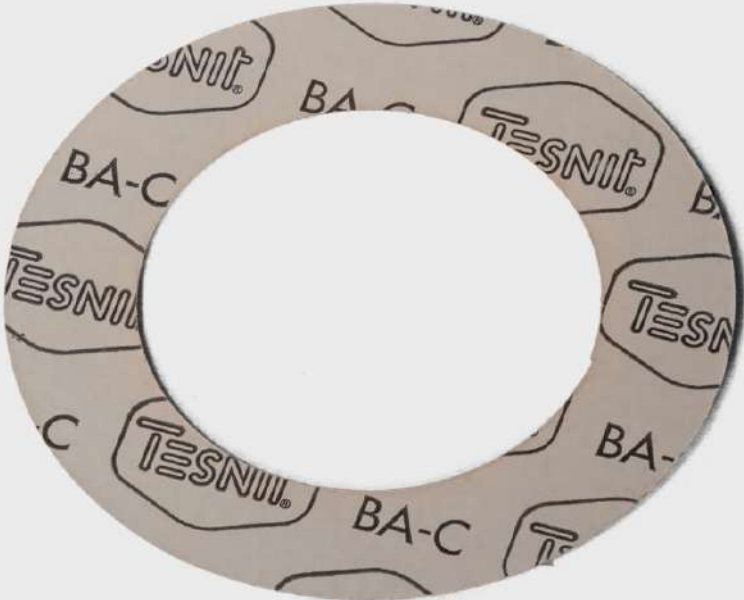


Metal grooved gaskets for plant element

Type SOLID FLAT
Type of gasket shape CIRCULAR
Type of gasket profile KEMPCHEN B7A
OR EQUAL
Mat, layers GRAPHITE
Mat, grooved profile STAINLESS STEEL
316
Thickness, total 4 mm
Grooved ring, i.d. x o.d. 1212 x 1242 mm

Without center bar
Equipment name INLET OIL
EXCHANGER
Equipment part number
4931GK00000002
Specific requirement:
This Gasket must have internal profile as
shown in GA drawing
Reference to drawing KE01-A1-
PPFM602-F01-0001-001
Position in Drawing: ITEM 12



182	Metal grooved gaskets for plant element Type SOLID FLAT Type of gasket shape CIRCULAR Type of gasket profile KEMPCHEN B7A OR EQUAL Mat, layers GRAPHITE Mat, grooved profile STAINLESS STEEL 316 Thickness, total 4 mm Grooved ring, i.d. x o.d. 1212 x 1242 mm Without center bar Equipment name INLET OIL EXCHANGER Equipment part number 4931GK00000002 Specific requirement: This Gasket must have internal profile as shown in GA drawing Reference to drawing KE01-A1-PPFM602-F01-0001-001 Position in Drawing: ITEM 12	
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Metal grooved gaskets for plant element

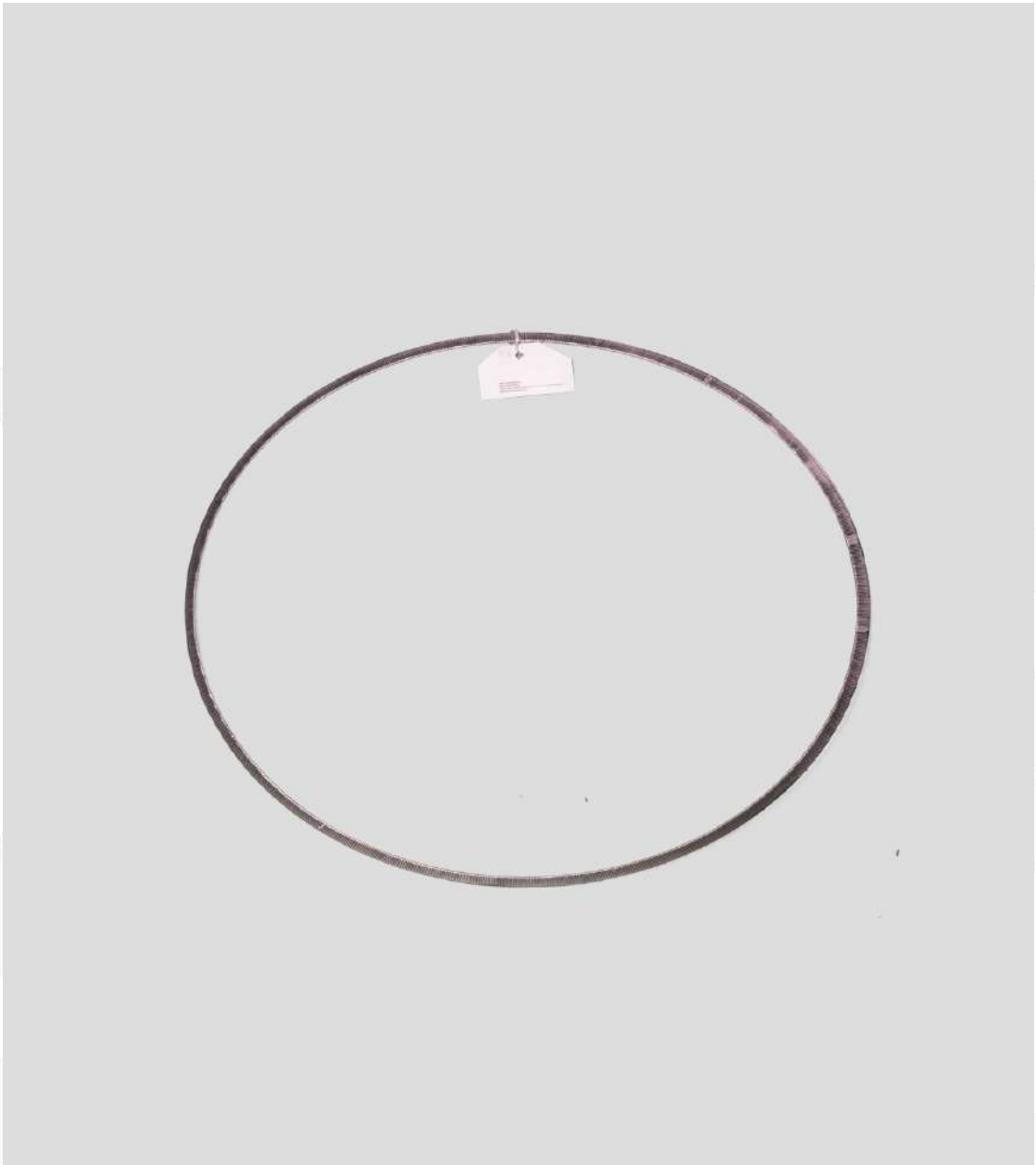
Type	SOLID FLAT
Type of gasket shape	CIRCULAR
Type of gasket profile	KEMPCHEN STYLE
B7A OR EQUAL	
Mat, layers	GRAPHITE
Mat, grooved profile	STAINLESS STEEL
316	
Thickness, total	4 mm
Grooved ring, i.d. x o.d.	592 x 612 mm



Metal grooved gaskets for plant element

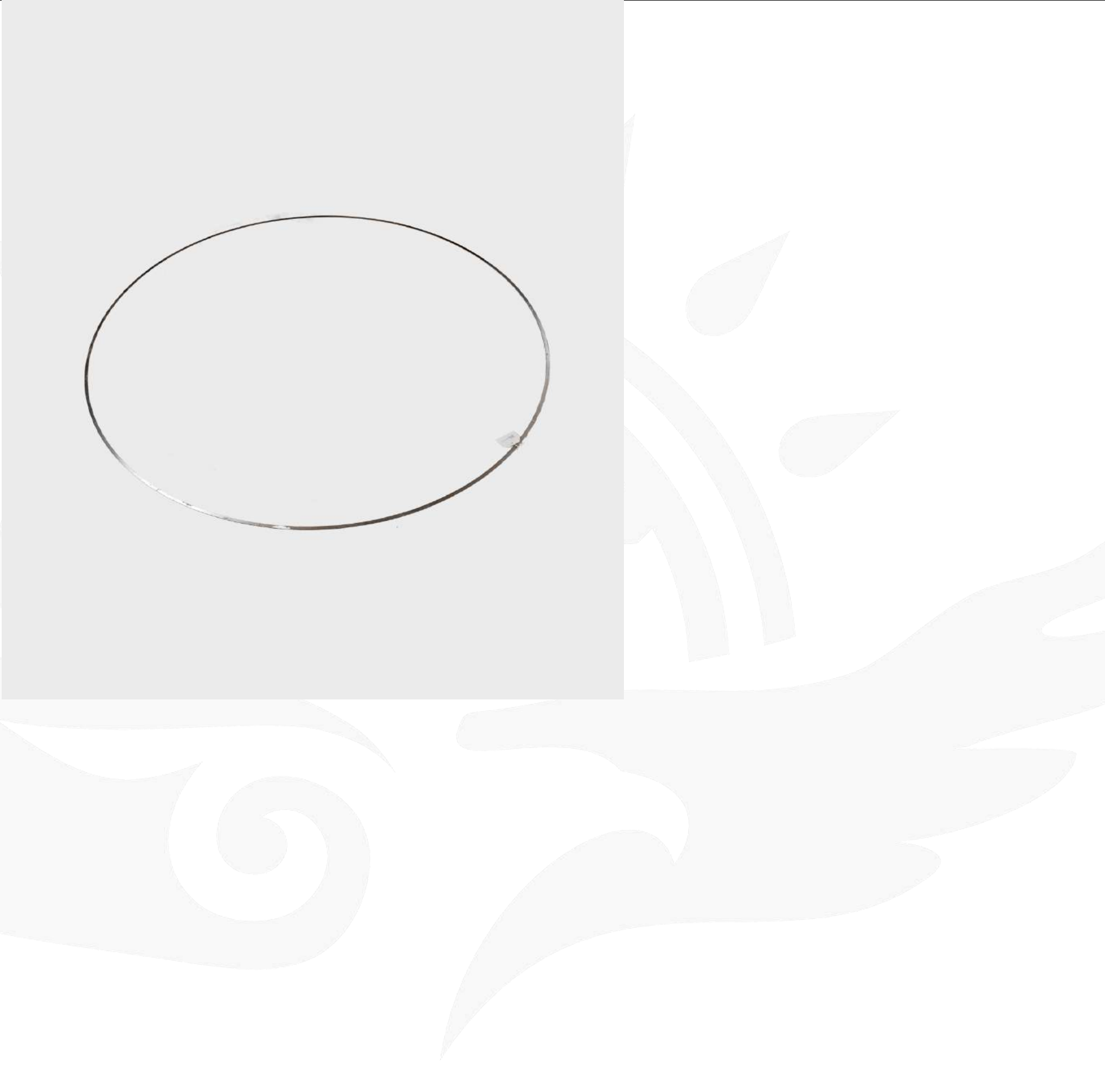
Type SOLID FLAT
Type of gasket shape CIRCULAR
Type of gasket profile KEMPCHEN STYLE
B7A OR EQUAL
Mat, layers GRAPHITE
Mat, grooved profile STAINLESS STEEL
316
Inspection, certif ISO 10474-2.1
Thickness, total 4 mm
Grooved ring, i.d. x o.d. 826 x 856 mm

Equipment name LPG COLUMN
REBOILER
Equipment Part number
4931GK00000012
Specific requirement:
This Gasket must have internal profile as
shown in GA drawing
Reference to drawing KE01-A1-
PPFM602-F01-0071-001
Position in Drawing ITEM 10



Metal grooved gaskets for plant element

- Type of gasket profile KEMPCHEN STYLE B7A
- Mat, layers GRAPHITE
- Mat, grooved profile STAINLESS STEEL 316
- Thickness, total 3 mm
- Grooved ring, i.d. x o.d. 2970 x 3008 mm



186

Metric hexagon bolts

Mat	CARBON STEEL
Mat spec, bolting	ASTM A320 GRADE L7
Dimensional spec	DIN 933
Coating	HOT DIP GALVANIZED
Type of thread	METRIC COARSE
Length, under head	150 mm
Length, thread	FULLY THREADED
Size	M30
Reference number	DTE-017-07



187

Mechanical Rotary Parts

Part name*	SERVICE PACK
Equipment name*	TBA
Equipment model number*	TBA
Equipment serial number*	TBA
Additional information	YEARLY, 500 h
Manufacturer	ATLAS COPCO
Manufacturer Part Number	2912 4393 06



BLT
MTR,HEX,L7,COARSE,M16,80mm,HDGALV
Metric hexagon bolts Mat
ALLOY STEEL Mat spec, bolting ASTM
A320 GRADE L7 Mat spec, nut(s)
ASTM A194 GRADE 7 Coating
HOT DIP GALVANIZED Type of thread
METRIC COARSE Length, under head
80 mm Size M16 With 2 full
nut and 2 flat round washer



BOLT+2N 1/2"X65MM THDD FORM UNC <= 1 \V Materials, without Shell Internal Schema
BOLT+2N 1/2"X65MM THDD FORM UNC <= 1" & 8 UN =>1 1/8) / ASM E B1.1 ASTM A 320 GR. L7M - A 194 GR. 7M HOT DIP GALVANIZED ACC. TO ISO 1461



Metric hexagon bolts

Mat	STAINLESS STEEL
Coating	NON-COATED
Type of thread	METRIC COARSE
Length, under head	25 mm
Size	M8

Complete with 2 nut and 2 washer



Stud bolts with nuts

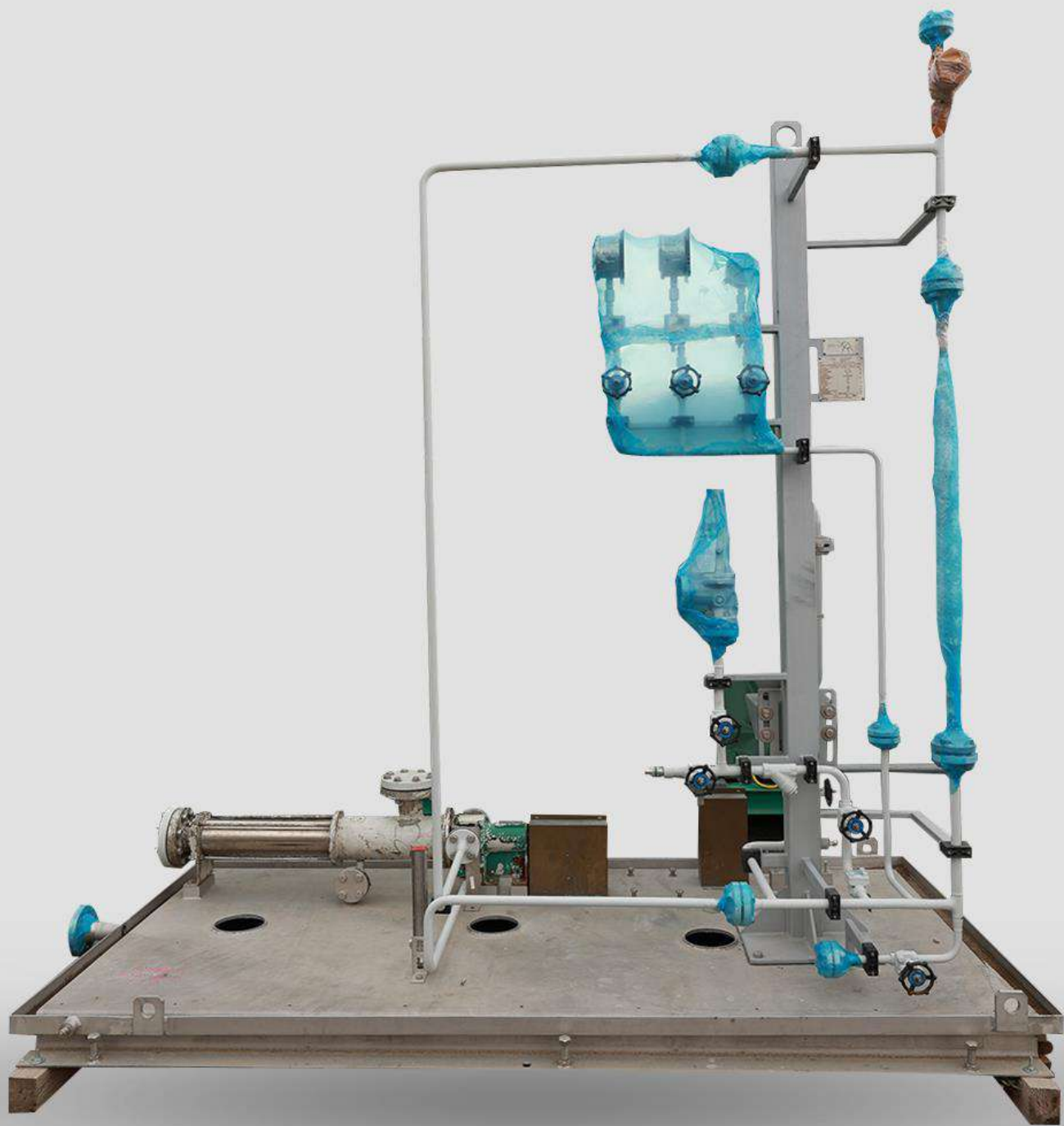
Mat spec, stud bolt(s)	ASTM A320
GRADE L7M	
Mat spec, nut(s)	ASTM A194 GRADE
7M	
Design spec, stud bolt	BS 4882
Design spec, nut	ASME B18.2.2
Design spec, thread	ASME B1.1
Thread class symbol, stud bolt	2A
Thread class symbol, nut	2B
Type of thread	UNIFIED COARSE
THREAD 8	
Type, nut	HEXAGONAL
Number, nuts per stud bolt	2
Length	220 mm
Size	1.1/4 in
Equipment part number	A44005-
PSNM03A- 2	



STUD THD,TBA,COARSE,M12,3000MM,ZINC
PL Threaded studs Mat, spec
TBA Type of thread METRIC
COARSE Length 3000 mm Size
M12 Material CARBON STEEL
Alternative name THREADED ROD
Coating ZINC PLATED



Pumps	
Type*	ROTARY
Flow rate*	8 m³/h
Pressure rating* (DISCHARGE)	10.3 bar
Speed*	453 r/min
Voltage rating	690 V
Frequency	50 Hz
Number of phase	3 PH
Dynamic viscosity	1-2 cP
Suction pressure range	2.8 TO 6.7 bar
Differential pressure range	3.6 TO 7.5 bar
Liquid	OILY WATER
Power, pump shaft	3.5 kW
Torque	83 N.m
Classification, hazardous area T3 IIA ZONE 2	
Ambient temperature range	-36 TO +45 °C
Pumping temperature	54 °C
Specific gravity	0.771 TO 1.04
Vapor pressure	2.5 bar
Corrosive/erosive agent	H2S AND CO2
H2S concentration	0.5%
Outdoor equipment:	
Suction: For connection	
Pressure designation	ANSI CL 300
Facing, flange	RAISED FACE
Size	3 in
Discharge:	
Pressure designation	ANSI CL 300
Facing, flange	RAISED FACE
Size	3 in
Drains:	
Pressure designation	ANSI CL 300
Facing, flange	RAISED FACE
Size	3/4 in
Seal: Pressure designation	
Facing, flange	ANSI CL 300 RAISED FACE
Size	3/4 in John Crane 587D, Q1Q1VGG-S2B1VGG Plan 53M



194	Drive belts Type TIMING Section designation HTD-3150-14M-40 Mat AS REINFORCEMENT FIBERGLASS TENSILE CORD FLEXIBLE NEOPRENE BACKING Requirements OIL-FIRE RESISTANT Width 40 mm Height 10 mm Length, pitch 3850 mm Pitch 14 mm Number of teeth 275 Height, tooth 6.02 mm	
195	Pumps Type* DOUBLE ACTING RECIPROCATING Series P-3 Working pressure, max 5000 psi Capacity, air consumption 250 scfm (MAXIMUM) Size, pump 40 mm Flow per stroke 6.6 l/min Operator PNEUMATIC Additional requirement: 1. Pressure Test Certificate, 2. Function Test Certificate, 3. Operations and Maintenance Manual. Certification: TYPE 2.1 AS PER EN 10204:2004, EAC CERTIFICATE	

Mechanical Rotary Parts
Part name* INTEGRAL SEAL
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Certification: TYPE 2.1 AS PER EN 10204:2004



Mechanical Rotary Parts
Part name* HOLLOW CONE
NOZZLE
Equipment name* STEEL BELT
COOLER
Equipment model number* B1500
PR 10527 CW Type
Equipment serial number* TBA
Certification: TYPE 2.1 AS PER EN 10204:2004



198

Hose couplings

MatTBA

Size4 in

ThreadN/A

End connection4 in FEMALE

CAMLOCK

With hose tail and Rubber Sealing Ring

ManufacturerTODO

Manufacturer Part Number5003102 + 5004102



199	Pumps
Type*	SUBMERSIBLE
Manufacturer model number	AS0631.142-S17/2
Flow rate*	TBA
Pressure rating*	TBA
Speed*	2900 r/min
Service	WASTE WATER
Hydraulic number	31
Diameter, impeller	142 mm
Size, solid	40 mm
Size, discharge	DN 65
Mat, motor housing	CAST IRON
Mat spec, motor housing	EN-GJL-250
Mat, rotor shaft	STAINLESS STEEL
1.4021	
Mat spec, rotor shaft	AISI 420
Mat, volute	CAST IRON
Mat spec, volute	EN-GJL-250
Mat, impeller	CAST IRON
Mat spec, impeller	EN-GJL-250
Mat, bottom plate	CAST IRON
Mat spec, bottom plate	EN-GJL-250
Standard	DIN EN12050-2
Type, motor	MODULAR MOTOR
VERSION	
Power rating, motor	P1- 2.31 kW
	P2- 1.70 kW
Number of poles	2
Insulation class	F
Voltage rating	400 Vac
Current rating	3.97 A
Number of phase	3
Speed	2900 r/min
Weight	35 kg
Manufacturer	ABS PUMPS
Manufacturer Part Number	06087204



200

Mechanical Rotary Parts

Part name*BEARING

Material0.6020 [GG-20] /

TEGOSTAR 738

DimensionDIA 170 x 54

Equipment name*SCREW

COMPRESSOR

Equipment model number*CP100/CP128

Equipment serial number*270302/270301, 270304/270303

270306/270305

Drawing number10000222318

Position number29

Additional informationMR-SS

ManufacturerMANTURBO

Manufacturer Part NumberZ400-1-029443



201

Drive belts	
Type	WEDGE
Design spec	BS 3790
	ISO 4184
Section designation	SPZ
Mat	NEOPRENE FILLER AND
COVER	
	POLYESTER CORD
Requirements	ANTI-STATIC
	OIL-FIRE RESISTANT
Width	10 mm
Height	8 mm
Length, pitch	750 mm
Manufacturer	GEBHARDT
VENTILATOREN	



202

Mechanical Rotary Parts

Part name*

OIL SEAL

Dimension

60 x 85 x 8 mm

Equipment name*

AIR COOLER

Equipment model number*

TBA

Equipment serial number*

6301030,
6301031, 6301094
6301095, 6301096

Additional information:

Reference

BASL SH1/2

Manufacturer

NUOVO PIGNONE

Manufacturer Part Number

ISG7810701



203

Mechanical Rotary Parts

Part name* LIFTING DEVICE

Equipment name* RGI

COMPRESSOR

Equipment model number* TBA

Equipment serial number* TBA

Reference number

RAO120490249_CO.7354_NA1

Manufacturer NUOVO PIGNONE

Manufacturer Part Number TO BE ADVISED BY VENDOR



204

Mechanical Rotary Parts

Part name*COOLING AIR PIPING

Equipment name*GAS TURBINE

Equipment model number*TBA

Equipment serial number*TBA

ManufacturerNUOVO PIGNONE

Manufacturer Part NumberSMR7741251



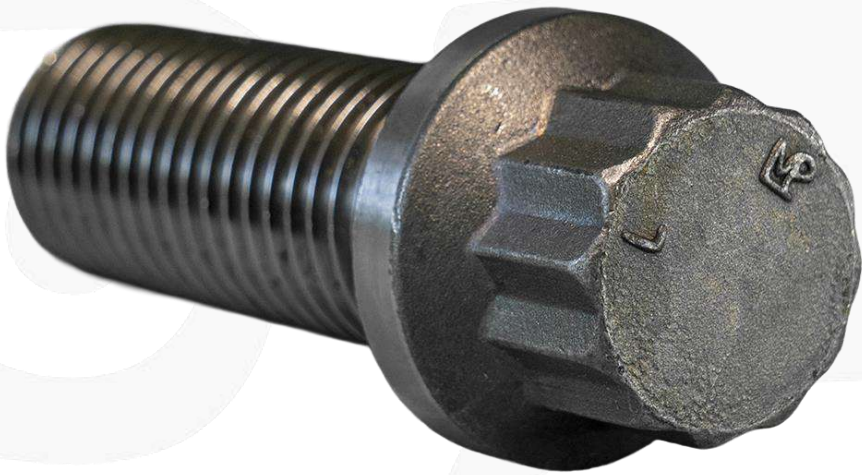
205

Mechanical Rotary Parts
Part name* PRIMARY
DIAPHRAGM
Material VITON
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Manufacturer WILDEN PUMP &
ENGINEERING
Manufacturer Part Number 15-1010-53



206

Mechanical Rotary Parts
Part name* SCREW
Material ALLOY STEEL
Dimension 1 in x 8 UNC
Equipment name* GAS TURBINE
Equipment model number* TBA
Equipment serial number* TBA
Additional information 12 POINT
Manufacturer GE ENERGY
Manufacturer Part Number N733AP39044



Mechanical Rotary Parts

Part name* SELF LOCKING NUT
Equipment name* GAS TURBINE
Equipment model number* TBA
Equipment serial number* TBA
Manufacturer Old Part Number
N265BP00033
Manufacturer GE ENERGY
Manufacturer Part Number N265BP33



208

Mechanical Rotary Parts

Part name*AIR FILTER ELEMENT

Equipment name*CENTRIFUGAL
AIR COMPRESSOR

Equipment model number*TBA

Equipment serial number*TBA

Additional information:

ReferenceEK 5

ManufacturerINGERSOLL-RAND

Manufacturer Part Number94744745
14SP325



209

Mechanical Rotary Parts

Part name*

AIR FILTER

CARTRIDGE

Equipment name*

TBA

Equipment model number*

TBA

Equipment serial number*

TBA

Dimensions

303 x 90 mm

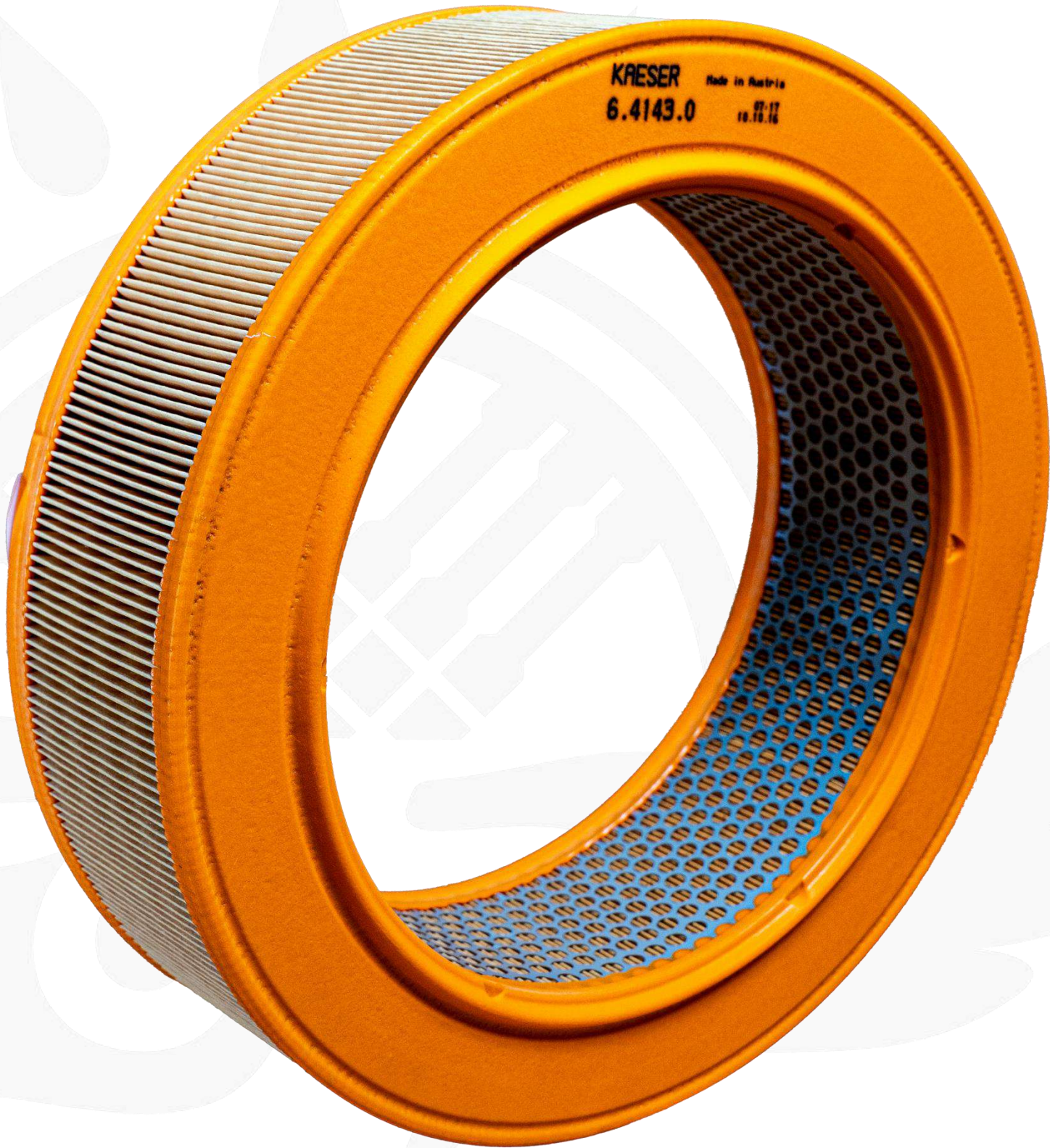
Manufacturer

KAESER

KOMPRESSOREN

Manufacturer Part Number

6.4143.0



210

Mechanical Rotary Parts

Part name* FILTER CARTRIDGE

Equipment name* GAS TURBINE

Equipment model number* MS6001B

Manufacturer GE ENERGY

Manufacturer Part Number 328A7168P001



211

Mechanical Rotary Parts

Part name* CARTRIDGE FILTER

Equipment name* GAS TURBINE

Equipment model number* TBA

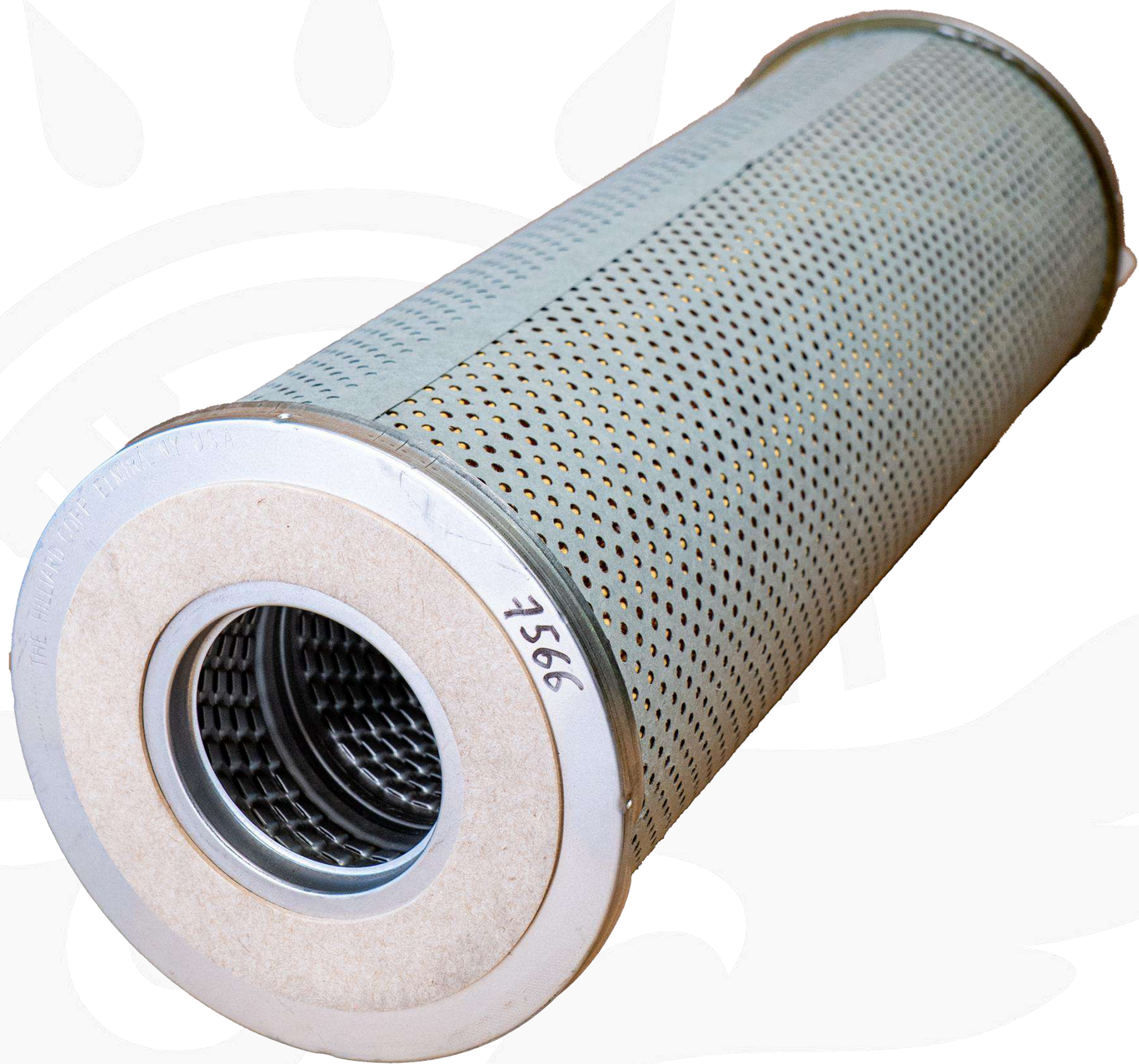
Equipment serial number* TBA

Additional information MAIN

LUBRICANT OIL

Manufacturer GE ENERGY

Manufacturer Part Number 342A2581P002



212

Mechanical Rotary Parts

Part name*	OIL FILTER
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Equipment name*	DIESEL ENGINE
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Equipment model number*	TBA
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Equipment serial number*	TBA
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Manufacturer	CATERPILLAR
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Manufacturer Part Number	1R0716
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213

Mechanical Rotary Parts

Part name*

CARTRIDGE OIL
FILTER

Equipment name*

DIESEL ENGINE

Equipment model number*

TBA

Equipment serial number*

TBA

Additional information:

Application

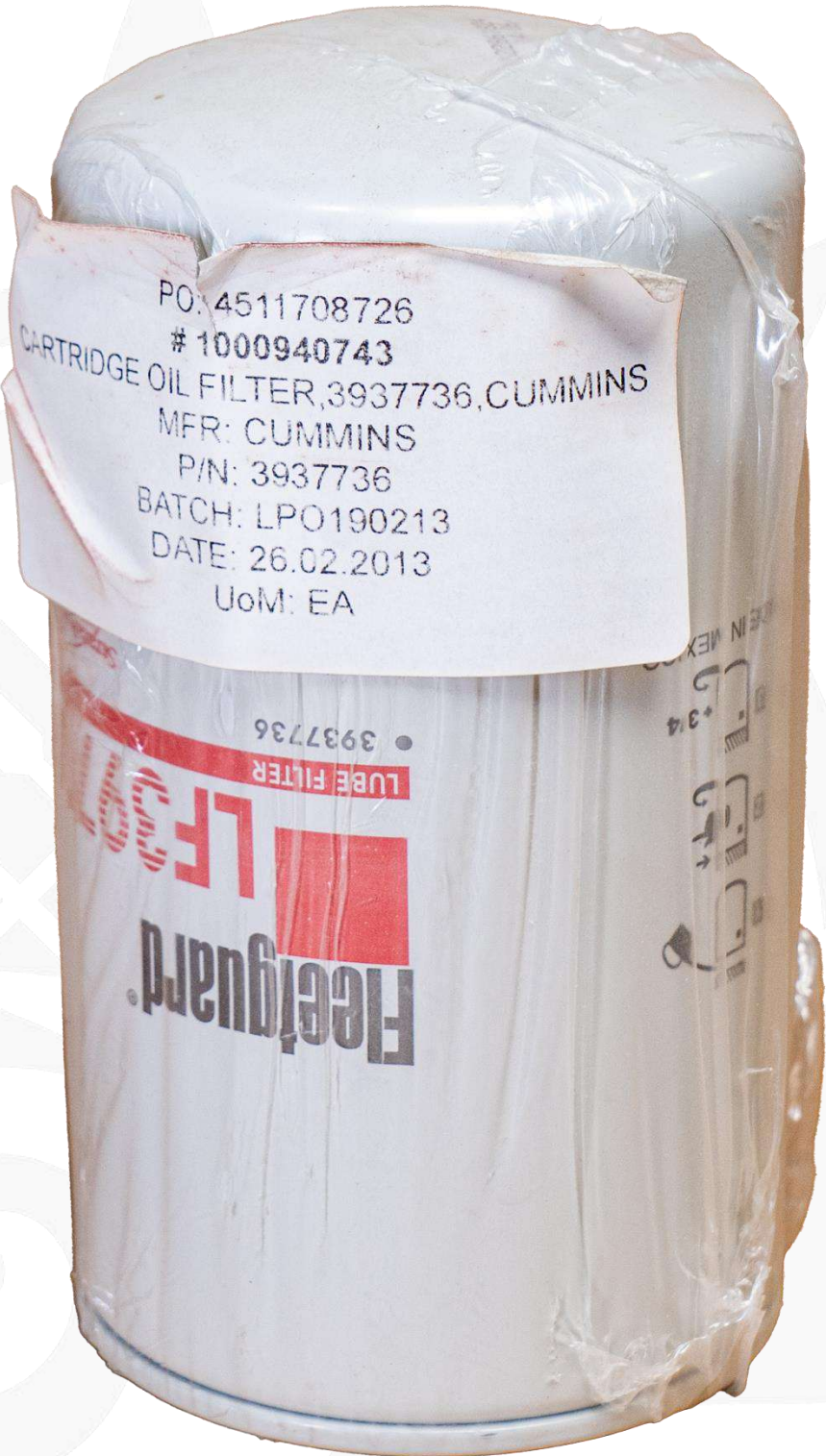
LUBE

Manufacturer

CUMMINS

Manufacturer Part Number

3937736



214

Mechanical Rotary Parts

Part name*GASKET

Equipment name*GAS
COMPRESSOR

Equipment model number*RB3B_2ND
STAGE SALES

Equipment serial number*TBA

Drawing numberCDD300141

Position number6

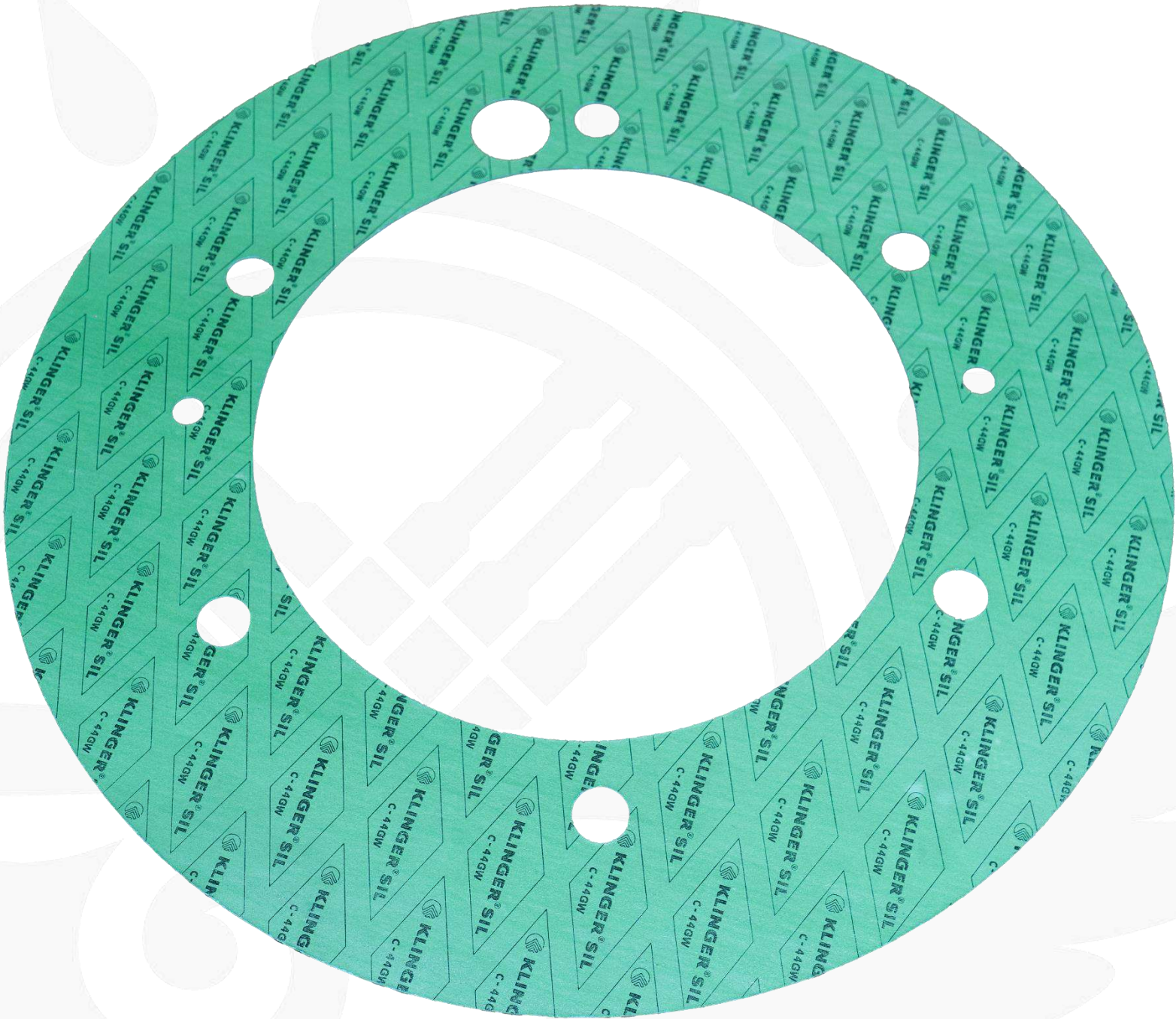
Additional information
INSTRUMENTIMEASUREELETTRICHE

Old part number
1X1345A2AC00019

Drawing numberCDD300141/6

ManufacturerTHERMODYN

Manufacturer Part Number
1X1391A2AC00005



215

Mechanical Rotary Parts

Part name* SPIRAL WOUND
GASKET

Equipment name* GAS TURBINE

Equipment model number* FRAME 6B

Equipment serial number* N/A

Manufacturer GE ENERGY

Manufacturer Part Number
N5606P04001G11



216

Mechanical Rotary Parts

Part name*GASKET

Equipment name*TBA

Equipment model number*TBA

Equipment serial number*TBA

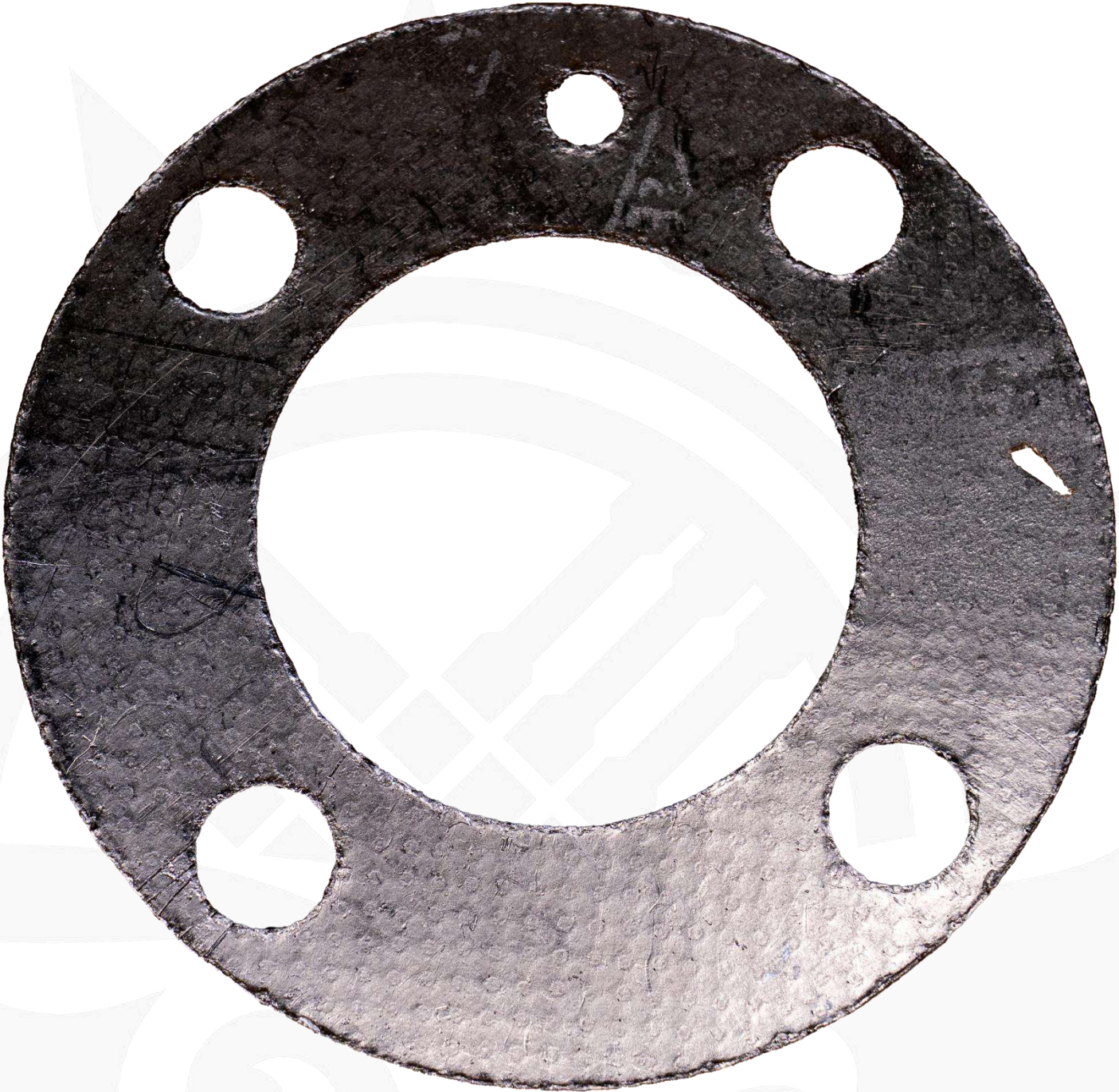
Additional information:

Reference part number258B8786P003

ManufacturerNUOVO PIGNONE

Manufacturer Part Number

KFZ338960323



217

Mechanical Rotary Parts

Part name*

GASKET

Material

COMPRESSED
SYNTHETIC FIBRE

Equipment name*

CENTRIFUGAL
PUMP

Equipment model number*

1 HPX 11 A

Equipment serial number*

D-64667 / D-
64668

D-64669 / D-64670

D-64671 / D-64672

Drawing number

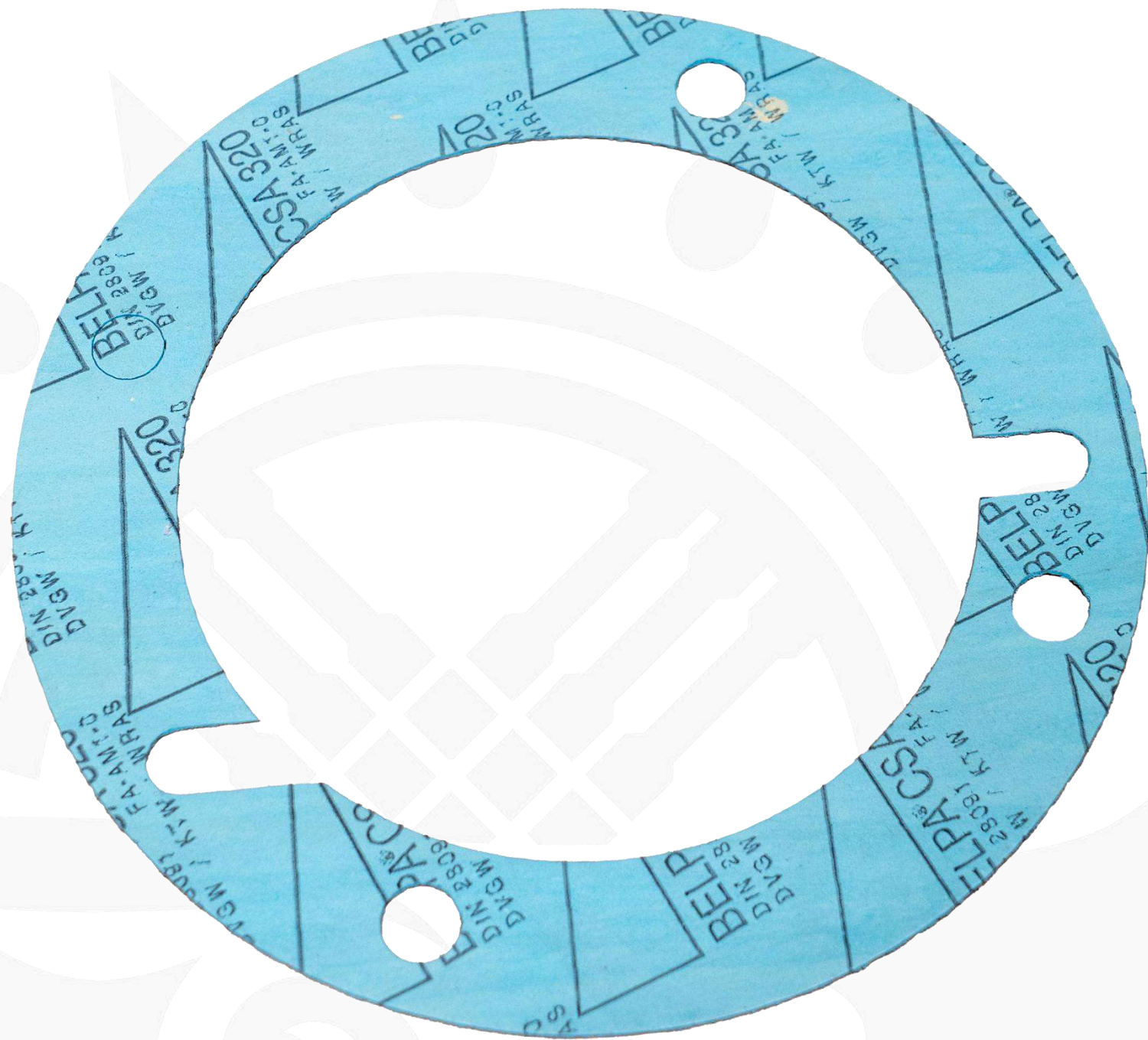
DCS003726

Manufacturer

FLOWERVE PUMP
DIVISION

Manufacturer Part Number

5642432330



218

Seals, mechanical

TypeTBA

Mat, body*TBA

Seal arrangement*TBA

Temperature rating*TBA

Diameter, shaft*TBA

Equipment mnfr part number5162274

Equipment manufacturer nameNETZSCH MOHNOPUMPEN GMBH

0350/587/01/D59763 <=> D/59763.01 ITEM CC DE

Additional information:

For shaft

Reference0350/587/01/D59763

ManufacturerJOHN CRANE

Manufacturer Part Number87227186



219

Mechanical Rotary Parts

Part name* DEFLECTOR

Equipment name* GAS TURBINE

Equipment model number* TBA

Equipment serial number* TBA

Additional information FORWARD

BEARING 2

Manufacturer GE ENERGY

Manufacturer Part Number

164C2819P001



220

Mechanical Rotary Parts

Part name* ANTIFRICTION BEARING

Equipment name* ROTARY PUMP

Equipment model number* NM045SY02S12B

Equipment serial number* TBA

Manufacturer NETZSCH PUMPS & SYSTEMS

Manufacturer Part Number 691460



221

Mechanical Rotary Parts

Part name*

TUBING

Dimension

1 in

Equipment name*

GAS TURBINE

Equipment model number*

TBA

Equipment serial number*

TBA

Manufacturer

GE ENERGY

Manufacturer Part Number

215A4468P009



222

Mechanical Rotary Parts

Part name*STATOR

MaterialVI / Al

Equipment name*ROTARY PUMP

Equipment model number*NM045SY02S12B

Equipment serial number*TBA

Additional information:
With reduced wall thickness

Old part number176476

ManufacturerNETZSCH PUMPS & SYSTEMS

Manufacturer Part Number1764SP



223

Mechanical Rotary Parts

Part name* ROTOR

Material AISI 316Ti

DIN 1.4571

STAINLESS STEEL

Equipment name* ROTARY PUMP

Equipment model number* NM045SY02S12B

Equipment serial number* TBA

Manufacturer NETZSCH PUMPS & SYSTEMS

Manufacturer Part Number 5074897



224

Mechanical Rotary Parts

Part name*

O-RING

Material

PTFE

Equipment name*

CENTRIFUGAL PUMP

Equipment model number*

2X3X12 HWM PUMP

Equipment serial number*

TBA

Drawing number

G207391/PU

Position number

396

Manufacturer

FLOWSERVE

Manufacturer Part Number

12079



225

Mechanical Rotary Parts

Part name*O-RING

MaterialNBR

Equipment name*CENTRIFUGAL PUMP

Equipment model number*1 HPX 11A

Equipment serial number*TBA

Drawing numberDCS003726

Position number4610.2

ManufacturerFLOWSERVE

Manufacturer Part Number5041008870



226

Mechanical Rotary Parts

Part name*O-RING

MaterialNBR70

Dimension55 x 3 mm

Equipment name*ROTARY PUMP

Equipment model number*TBA

Equipment serial number*TBA

Additional informationType 3

ManufacturerNETZSCH PUMPS & SYSTEMS

Manufacturer Part Number516333



227	Mechanical Rotary Parts
Part name*	VALVE GASKET
Equipment name*	METERING PUMP
Equipment model number*	TBA
Equipment serial number*	TBA
Manufacturer	OBL
Manufacturer Part Number	R9 KRV37



228	Mechanical Rotary Parts
Part name*	O-RING
Vendor name	HI-TECH SEALS INC
Equipment name*	CENTRIFUGAL PUMP
Equipment model number*	TBA
Equipment serial number*	TBA
Manufacturer	SUNDYNE PUMPS
Manufacturer Part Number	14-303UC



229

Mechanical Rotary Parts

Part name*O-RING

MaterialNBR

Equipment name*CENTRIFUGAL PUMP

Equipment model number*1 HPX 11A

Equipment serial number*TBA

Drawing numberDCS003726

Position number4610.1

ManufacturerFLOWSERVE

Manufacturer Part Number5041008350



230

Mechanical Rotary Parts
Part name* IMPELLER TAB
WASHER
Equipment name* CENTRIFUGAL
COMPRESSOR
Equipment model number* LMV-341Z
Equipment serial number* D870568-1-A
D870568-1-B
Manufacturer SUNDYNE PUMPS
Manufacturer Part Number
WA02NA01DB



231

Mechanical Rotary Parts

Part name*OIL FILTER

Equipment name*GAS

COMPRESSOR

Equipment model number*5437.1.LILDA

Additional informationEFL189

ManufacturerCOMPAIR

Manufacturer Part Number98262/1009



232	Pumps	
Type*	BARREL	
	ROTARY	
Flow rate*	18 l/min	
Pressure rating*	N/A	
Speed*	N/A	
Model	SRL	
Operation	HAND OPERATED	
Three-part suction pipe length	355 TO 955	
mm		
Discharge	DISCHARGE SPOUT	
Barrel screw coupling	G 2in MALE	
Mat, housing	IMPACT RESISTANT	
DIE CASTING		
Color, housing	BLUE	
Manufacturer	PRESSOL	
SCHMIERGERAETE		
Manufacturer Part Number	13055	



HVAC		
233	FLTR,BAG,592x592x290mm Filters, engineered Type BAG Material GLASS FIBER PAPER Class F7 Height 592 mm Width 592 mm Depth 290 mm Air flow 4250 m³/h Mat, frame POLYSTYRENE Maximum temperature 70 °C (CONTINUOUS OPERATION) Relative humidity 100% Pressure drop 250 Pa Mat, sealant POLYURETHANE Weight 5.7 kg	

234

FAN,EXTRACTION,230TO400V,50HZ,3,IP55
Fans Type* LOW PRESSURE
EXTRACTION Sweep size* TBA
Volatge rating* 230 TO 400 V
Frequency* 50 Hz Phase*
3 Mounting* TBA Explosion
proof* IP55 Material, guard*
TBA Model VSB30 Material
POLYPROPYLENE Shape B
Power rating 1.1 kW
1.5 hp Speed 1450 r/min
Weight 45 kg Sound
65 db Type, rotation LG
Classification, hazard area EEx-d IIB
Position 0



235

Fans
Type* AIR SUPPLY
CENTRIFUGAL
Sweep size* 315 mm
Volatge rating* TBA
Frequency* TBA
Phase* TBA
Mounting* TBA
Explosion proof* TBA
Material, guard* TBA
Power rating 5.5 kW
Number of blade 38
Weight 4.6 kg
Certification: TYPE 2.1 AS PER EN 10204:2004



236

Fans
Type* CENTRIFUGAL
Sweep size* TBA
Volatge rating* 450 V
Frequency* 50 / 60 Hz
Phase* 1
Mounting* TBA
Explosion proof* IP55
Material, guard* TBA
Certification: TYPE 2.1 AS PER EN 10204:2004



237

Fans

Type*
EXTRACTION

LOW PRESSURE

Sweep size*

TBA

Volatge rating*

230 TO 400 V

Frequency*

50 Hz

Phase*

3

Mounting*

TBA

Explosion proof*

TBA

Material, guard*

TBA

Shape

B

Power rating

1.1 kW

1.5 hp

Speed

1450 r/min

Weight

45 kg

Sound

65 db

Certification: TYPE 2.1 AS PER EN 10204:2004



238

Fans

Type*
CENTRIFUGAL

AIR SUPPLY

Sweep size*

450 mm

Volatge rating*

TBA

Frequency*

TBA

Phase*

TBA

Mounting*

TBA

Explosion proof*

TBA

Material, guard*

TBA

Certification: TYPE 2.1 AS PER EN 10204:2004



CHEMICALS

239

Oils

Application

COMPRESSOR

Form of supply

Brand name

Viscosity grade

Type

Viscosity, SUS

REFRIGERATION /

18.9 l

YORK L

ISO 120

POE

600



Greases	
Application	BEARING
Form of supply	PAIL OF 18 kg
Brand name	SPHEEROL EPL 1
Type, base oil	MINERAL
Type, soap	LITHIUM
Colour	AMBER TO BROWN
Viscosity,kin,baseoil,40 deg c 150 TO 200 mm ² /s	
Penetration,worked at 25 deg c 310 TO 340	
Nlgi consistency	1
Dropping point	195 °C
	383 °F



Oils

Application	ENCLOSED GEAR, BEARING
Form of supply	PAIL OF 20 l
Brand name	ALPHASYN EP 220
Viscosity, kinematic, 40 deg c	220 mm ² /s
Viscosity, kinematic,100 deg c	25 mm ² /s
Viscosity grade	ISO VG 220
Viscosity index	140
Flash point, open cup	220 °C
Pour point	-42 °C



Oils

Application BEARING, CENTRAL

LUBRICATING / CIRCULATORY, LIGHT TO

MEDIUM DUTY ENCLOSED GEAR

SYSTEM

Form of supply DRUM OF 208 l

Brand name ALPHASYN T 46

Viscosity, kinematic, 40 deg c 46 mm²/s

Viscosity, kinematic,100 deg c 7.8 mm²/s

Viscosity grade ISO VG 46

Viscosity index 120

Density at 15 deg C 0.85 g/ml

Flash point, closed cup 220 °C

Pour point -57 °C



Oils

Application	HEAVY DUTY
INDUSTRIAL GEAR	
Form of supply	209 l
Brand name	OMALA S2 GX 220
Viscosity, kinematic, 40 deg c 220 mm ² /s	
Viscosity, kinematic,100 deg c 19 mm ² /s	
Viscosity index	97
Density at 15 deg C	894 kg/m ³
Flash point, open cup	>250 °C
Pour point	-18 °C



Fluids	
Application	GAS / DIESEL ENGINE VEHICLE COOLING
SYSTEM	
Brand name	PREMIX 50/50
Type, fluid	50% EXTENDED LIFE
COOLANT	
	50% MIXTURE OF WATER
Appearance	TBA
Ph	8.3
Form of supply	DRUM OF 210 l
Specific gravity	1.110
Reserve alkalinity	5.5
Ash content	5%
Boiling point	129 °C (50%
PREMIXED)	
	132 °C (60%
CONCENTRATE)	
Freezing point	-37 °C (50%
PREMIXED)	
	-54 °C (60%
CONCENTRATE)	



Extinguishing_agents
Type, agent ABC DRY CHEMICAL
POWDER
Packaging unit PAIL OF 25 kg
Agent MONO-AMMONIUM
PHOSPHATE
For Fire extinguisher NWA60
Old Part Number PA1000



Chemicals, Specialty

Product name AIRHITONE A4S2
MF P

Application AIR AT VARIOUS
INDUSTRIAL AND
MUNICIPAL FACILITIES
TREATMENT OF FOUL-

SMELLING

Appearance LIQUID

Form of supply PAIL OF 30 I

Ph NO DATA AVAILABLE

Color WHITE

Flash point NOT MEASURED

Type MIXTURE

No reactions for environmental life



Catalyst chemicals

Product name	GAS TREATMENT MERCAPTAN EXTRACTION CATALYST
Application	HYDROGENATION
Shape	TBA
Size	TBA
Form of supply	CONTAINER OF 2 gal
Appearance	LIQUID
Trade name	Merox WS-2
Color	DEEP BLUE
Specific gravity	1.14 AT 60 °F
Freeze point	-76 °F (-60 °C)
Odor	SLIGHT SWEET



Oils

Application	REFRIGERATION / COMPRESSOR
Form of supply	DRUM OF 208 l
Brand name	CPI SOLEST 220
Viscosity, kinematic, 40 deg c	215.9 cSt
Viscosity, kinematic,100 deg c	20.8 cSt
Viscosity grade	ISO VG220
Viscosity index	113
Density at 15 deg C	7.75 lb/gal
Flash point, open cup	271 °C
Pour point	-27 °C



249

Chemicals	
Product name	N/A
Application	DISPERSANT
NEUTRALIZER	
Chemical formula	N/A
Scientific name	N/A
Appearance	LIQUID
Form of supply	DRUM OF 200 TO 220 l
Ph Range	7.2 AT 1%
SOLUTION	
Colour, indicating	LIGHT GREEN
Specific gravity (density)	1 AT 70 °F
Number, Cas	N/A
Risk and safety phrases	R36/38
Type	SURFACTANT
Odor	CINNAMON
Solubility	SOLUBLE IN WATER
AT ALL	
	CONCENTRATION
Density	8.335 lb/gal
Boiling point	212 °F
Melting point	0 °F



Oils	
Application	GEAR / BEARING
Form of supply	DRUM of 200 l
Brand name	MOBIL SHC 524
Viscosity, kinematic, 40 deg c 32 cSt	
Viscosity, kinematic,100 deg c 6.4 cSt	
Viscosity grade	ISO 32
Viscosity index	144
Density at 15 deg C	0.852 kg/l
Pour point	-56 °C
Flash point	234 °C



Oils
Application ANTI-WEAR
HYDRAULIC
Form of supply DRUM OF 208 l
Brand name UNIVIS HVI 13
Performance spec ASTM D 445
Viscosity, kinematic, 40 deg c 13.5 mm²/s
Viscosity, kinematic,100 deg c 5.3 mm²/s
Viscosity index 404
Flash point, open cup 101 °C
Pour point -60 °C



General Spare Parts
Part name* ENGINE OIL
Additional information VOLVO VDS-3
15W-40



Greases
Application FOR CORRODED
AND FROZEN VALVE
Temperature, operating 150 °F
 65 °C
Form of supply 36 lb
 PAIL OF 5 gal
Brand name VALVESEALER
VALVE FLUSH
Colour COLORLESS LIQUID
Flash Point 154 TO 158 °F
 68 TO 70 °C
Density 7.5 lb/gal



Greases	
Application	GEARBOX MECHANICAL TRANMISSION
Temperature, operating °C	-45 TO +150
Form of supply	50 kg
Brand name	REDUSYNTH
Type, base oil	PAG
Type, soap	LITHIUM
Colour	BEIGE
Viscosity,kin,baseoil,40 deg c	128 mm²/s AT 40 °C
Viscosity,kin,baseoil,100deg c	22 mm²/s
Dropping point	> 185 °C
Welding charge	250 kg



255	Chemicals	
	Alternative name	NITROGEN
	GENERATION	
	Scientific name	CARBON
	MOLECULAR SIEVE	
	Appearance	CYLINDRICAL
	Form of supply	DRUM OF 137 kg
	Type	DESICCANT
	Properties:	
	Crush strength	75 N (AVERAGE)
	Bulk density (MAXIMUM)	680 - 730 kg/m ³
	Particle diameter	1.8 +/- 0.2 mm
	Loss on Drying	1 wt% (max.)
	PSA performance of 99% Nitrogen at 30°C, 0.69MPa:	
	Cycle time	60 sec
	Recovery, Nitrogen / Air (MINIMUM)	37.0%
	Productivity, Nitrogen (MINIMUM)	190 Nm ³ /hr.ton
	Certification: MSDS	



Chemicals

Application AIR STRIPPER
EXHAUST
EXHAUST HOOD
SEWAGE PLANT ODOR CONTROL
SOIL VAPOR REMEDIATION
TANK VENT
WORK AREA PURIFICATION

Scientific name AIR PURIFICATION
CANISTER

Form of supply 200 lb

Type ACTIVATED CARBON

Material EPOXY LINED STEEL

Diameter 24 in

Height 36 in

Size, inlet/outlet 2 in

Rated flow, max 100 ft³/min

Weight, ship 250 lb
(APPROXIMATE)

Flow, handle 500 ft³/min (UP TO)

Feature:

- 1. High activity carbon
- 2. Acceptable for transport of hazardous spent carbon
- 3. Side drain for removal of accumulated condensate
- 4. Low pressure drop
- 5. PVC internal piping
- 6. High temperature (180 °F) steel units available

Safety:

Certain chemical compounds in the presence of activated carbon may oxidize, decompose or polymerize.

This could result in temperature increases sufficient to cause ignition of the activated carbon or adsorbed



	material. If a compounds reaction with activated carbon is unknown, appropriate tests should be considered.	
257	Chemicals ApplicationAIR AND GAS DRYING Chemical formulaAl2O3 Na2O Scientific nameALUMINIUM OXIDE SODIUM OXIDE AppearanceHIGH PURITY ALUMINA BEADS Concentration3200 MAX WT ppm (Na2O) 93.5 MIN WT% (Al2O3) Form of supplyFIBER DRUM OF 160 kg TypeACTIVATED ALUMINA Diameter5.0 TO 2.5 mm Nominal size1/8 in Soak loading density780 kg/m² Dense loading density860 kg/m² Particle crushing strength21 daN Total pore volume44 cm² / 100 g Surface area335 m²/g Loss of ignition(300 TO 1000 °C)5 MAX. WT% Attrition resistance(AIF method)99.3 WT% Static adsorption(at 60% RH)21.5 WT% Certification: MSDS	

Tower packing

Type

RASCHIG RING

Mat

GRAPHITE

Dimensions

LG 37 x ID 25 x OD

37 mm

Weight, bulk

600 kg/m³

Quantity, bulk

15000 PIECE/m³

Free Space

0.67

Form of supply

DRUM OF 200 l

Size, nominal

1.1/2 in

Certification: TYPE 2.1 AS PER EN 10204:2004



259	Chemicals	
	Product name	N/A
	Application	AIR AND GAS DRYING
	Chemical formula	Al2O3
	Na2O	
	Scientific name	ALUMINIUM OXIDE
	SODIUM OXIDE	
	Appearance	HIGH PURITY
	ALUMINA BEADS	
	Concentration	3200 MAX WT
	ppm (Na2O)	
	93.5 MIN WT% (Al2O3)	
	Form of supply	FIBER DRUM OF 160 kg
	Number, Cas	1313-59-3
	1344-28-1	
	Type	ACTIVATED ALUMINA
	Diameter	4.0 TO 8.0 mm
	Soak loading density	770 kg/m ²
	Dense loading density	850 kg/m ²
	Particle crushing strength	44 daN
	Total pore volume	44 cm ² / 100 g
	Surface area	330 m ² /g
	Loss of ignition (300 TO 1000 °C)	5 MAX. WT%
	Attrition resistance (AIF method)	99.2 WT%
	Static adsorption (at 60% RH)	20.8 WT%



260

Chemicals

Product name	N/A
Alternative name	ALUMINA
Chemical formula	Al ₂ O ₃
Scientific name	ALUMINUM OXIDE
Appearance	POWDER
Form of supply	45 kg
Type	DESICCANT



261

Gravel

Size	10 TO 18 mm
Type	LARGE FILTER
Application	DUAL MEDIA FILTER
Form of supply	25 kg PER BAG
Hardness (Moh's scale)	7.0
Density, particle	2.65 kg/m ³
Density, bulk	1.6 g/cm ³
Color, indicating	GRAY TO AMBER
Acid solubility	LESS THAN 0.2%
Certification:	TYPE 2.1 AS PER EN 10204:2004



Gravel
Size 6 TO 12 mm
Type MEDIUM FILTER
Application DUAL MEDIA FILTER
Form of supply 25 kg PER BAG
Hardness (Moh's scale) 7.0
Density, particle 2.65 kg/m³
Density, bulk 1.6 g/cm³
Color, indicating GRAY TO AMBER
Acid solubility LESS THAN 0.2%
Certification: TYPE 2.1 AS PER EN 10204:2004



Catalyst chemicals

Product name	COBALT
MOLYBDENUM	
	TAIL GAS
Application	HYDROGENATION
Shape	SPHERE
Size	2 TO 4 mm BEAD
Form of supply	BAG OF 800 kg
Appearance	TBA
Weight, bulk	(kg/m3 780 kg/m ³
TYPICALLY	
Characteristics	CoMo, Al2O3
Surface area	312 m ² /g
TYPICALLY	
Crushing strength	11.5 kgf
TYPICALLY	
Cobalt oxide content	3 wt%
TYPICALLY	
Molybdenum oxide content	14 wt%
TYPICALLY	
Certification: MSDS	



Chemicals	
Product name	N/A
Chemical formula	C
Scientific name	ACTIVATED
CARBON	
Appearance	TBA
Form of supply	470 kg
Number, Cas	7440-44-0
Type	N/A
Type, carbon	LIGNITE
Larger than 8 mesh (MAXIMUM)	15% WT
Smaller than 30 mesh (MAXIMUM)	4% WT
Diameter, mean particle	1.5 TO 1.7 mm
Iodine number (MINIMUM)	900 mg/g
Molasses number	200 (MINIMUM)
Moisture	2% WT (MAXIMUM)
Abrasion number	75 (MINIMUM)
Ash	12% WT
Surface area	1000 m ² /g
Operating temperature, max	300 °F
Size, mesh	12 x 30
Size, sieve, US	8 x 30
12 x 30	



Catalyst chemicals

Product name COBALT
MOLYBDENUM

 TAIL GAS

Application HYDROGENATION

Shape SPHERE

Size 2 TO 4 mm BEAD

Form of supply BAG OF 800 kg

Appearance TBA

Weight, bulk (kg/m3 780 kg/m³
TYPICALLY

Characteristics CoMo, Al2O3

Surface area 312 m²/g
TYPICALLY

Crushing strength 11.5 kgf
TYPICALLY

Cobalt oxide content 3 wt%

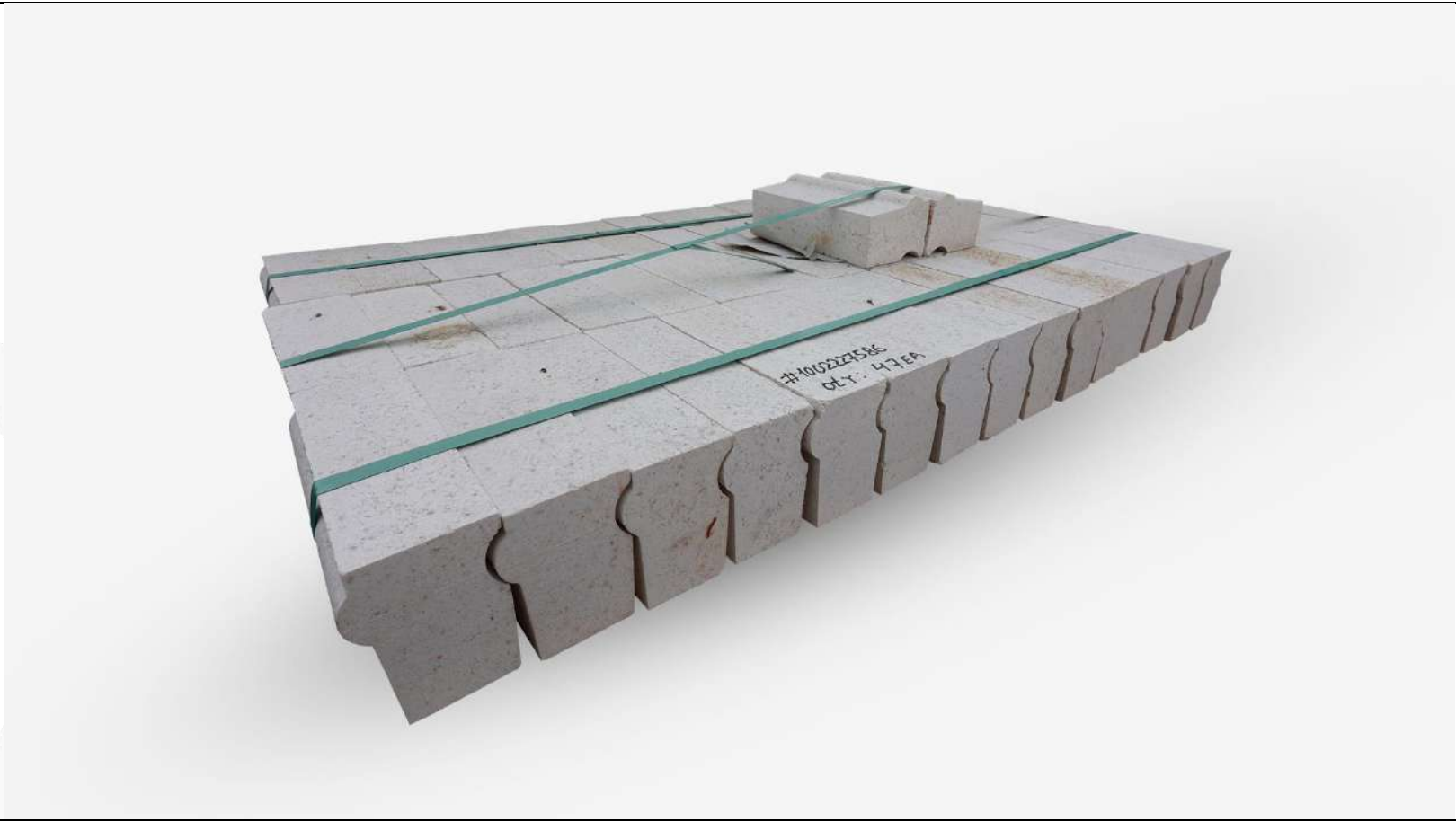
TYPICALLY

Molybdenum oxide content 14 wt%

TYPICALLY

Certification: MSDS



MECHANICAL STATIC PARTS			
266	Mechanical Static Parts Part name* SIDE ARCH BRICK Equipment name* THERMAL OXIDISER Equipment model number* TBA Equipment serial number TBA Drawing number 812902 Position number 1.30 Additional information: Quality AK 94 M Reference B1176-POS05 Certification: TYPE 2.1 AS PER EN 10204:2004		

Mechanical Rotary Parts

Part name* ELEMENT FILTER
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Additional information SSW CONE
Manufacturer DONALDSON
Manufacturer Part Number P19-1178



Mechanical Rotary Parts
Part name* SHAFT LIP SEAL
Material NITRILE
Dimension 50 x 65 x 10 mm
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Manufacturer CHEMINEER-KENICS
Manufacturer Part Number P81547



Mechanical Static Parts

Part name* FILTER KIT
SPARE KIT ASSEMBLY
Equipment name* GAS FILTER
Equipment model number* IDGH 1-85
Equipment serial number TBA
Drawing number 045.05.966.99,
045.05.967.99
Additional information ASSEMBLY NOTE 8
Reference F22-139-KIT
Manufacturer JOHN CRANE
Manufacturer Part Number 89488089



Mechanical Rotary Parts
Part name* CARTRIDGE
Material SINTERIZED STAINLESS
STEEL
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* 1145, 1146,
1159, 1160
Additional information:
Old part number BKP10D1SSPT
Manufacturer REPCO
Manufacturer Part Number RBKP03D1SSPT



Dryers	
Type	SOLID CORE FILTER
Power rating*	TBA
Voltage rating*	TBA
Pressure rating*	TBA
Temperature rating*	TBA
Volume*	TBA
Size*	TBA
Manufacturer	CASTEL VALVE
Manufacturer Part Number	4341/7S



Mechanical Static Parts
Part name* GASKET
Equipment name* OIL FILTER
SALES GAS COMPRESSOR
LUBE
Equipment model number* IDGH3700_1ST
STAGE
Drawing number 572408199
Manufacturer INDUFIL
Manufacturer Part Number 572408199/7



Filters, engineered

Type	FILTER MAT
Material	CHEMICAL FIBRE
Class	G3
Height	221 mm
Width	221 mm
Depth	17 mm
Standard, filter	DIN EN 779, DIN EN ISO 16890
For fan-and-filter units, roof-mounted fan	
Manufacturer	RITTAL
Manufacturer Part Number	3172100



Gear_boxes
Type MANUAL WORM
Ratio* 1:65
Torque rating* 1500 N.m
Rotation, shaft TBA
Size, flange F12
Diameter, stem 45 mm
Width, shaft key 14 mm
Thickness, key 10 mm
Mounting bolt M12
Quantity, bolt 4
Old manufacturer name VIRGO
ENGINEERS
Old manufacturer part number 4912005203
Manufacturer Part Number REQUIRED
PART NUMBER



275

Filters, engineered

Type

BAG

Manufacturer model number

COMPATEX

FP-F6-305

Material

GLASS FIBER PAPER

Class

F9

Height

592 mm

Width

284 mm

Depth

300 mm

Air flow

2060 m³h

Initial pressure drop

95 Pa

Efficiency

98 %

Mat, gasket

POLYURETHANE

Manufacturer

VOKES AIR (MCLEOD

RUSSEL)

Manufacturer Part Number

4100615396



276

Filters, engineered

Type

NE92424

NTE9

RIGID BAG

Dimensions

592 x 287 x 290

Efficiency

95%

Manufacturer

GENERAL FILTER

Manufacturer Part Number

F8/9 EN

592X287X290



277

Filters - Mechanical

Type*

FILTER BAG SONIQ M5

Ratings*

TBA

End connection*

TBA

Dimensions*

287 x 592 x 500 mm

Manufacturer
RUSSEL)

VOKES AIR (MCLEOD

Manufacturer Part Number

3300515187



278	Dryers
Type	LIQUID LINE FILTER
DRYER	
Power rating*	TBA
Voltage rating*	TBA
Pressure rating*	46.0 bar
	667 psig
Temperature rating*	-40 TO +160 °F
	-40 TO +70 °C
Volume*	0.224 l
	7.57 foz US
Size*	5/8 in
Type designation	DML 305S
Material, connection	STEEL CU-PLATED
Type, connection	SOLDER, ODF
Refrigerant(s)	HCFC / HFC / HC
Size, core	30 in ³
Shell volume	24.35 foz US
	0.72 l
Solid core surface	378 cm ²
	58.59 in ²
Solid core volume	494 cm ³
	30.14 in ³
Specification key	DML 305S
Acid capacity	6.40 g
	0.226 oz
Approval	UL
Weight	1.27 Kg
Manufacturer	DANFOSS
Manufacturer Part Number	023Z4588



279

Mechanical Static Parts

Part name*

CARTRIDGE

Dimension

DIA 54 x 158 mm

Equipment name*

CARTRIDGE FILTER

Equipment model number*

IDGH1-85(OTE-N-0085-ST-SPG-N)

Additional information:

Reference number

OTE-N-0085-ST-SPG-N

Manufacturer old part number

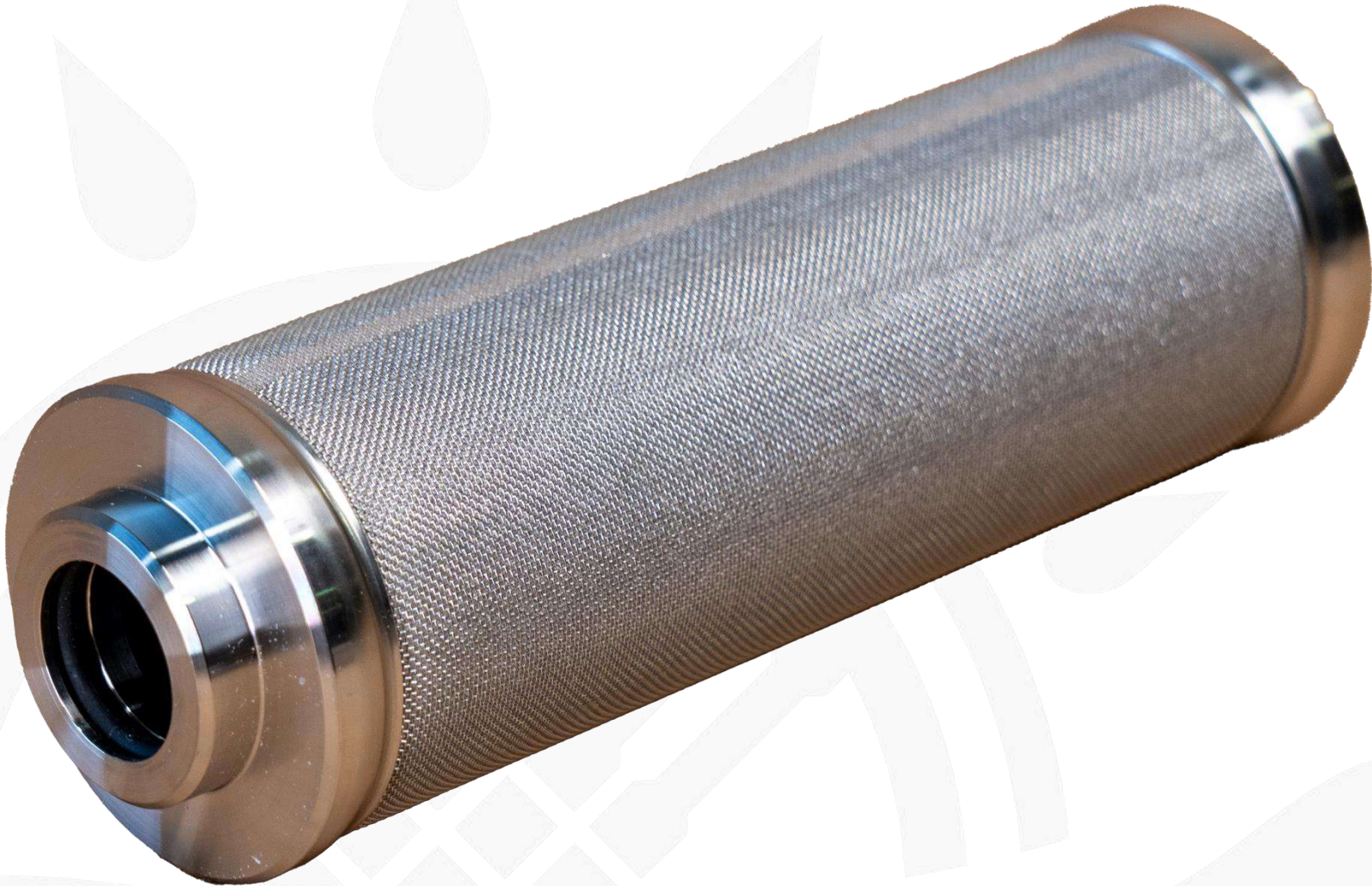
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Manufacturer

INDUFIL

Manufacturer Part Number

89590951



280	Screens, filter
Type	SPIN ON FILTER
ELEMENT	
Material*	TBA
Size, mesh*	2.5 µm
Length*	10.900 in
Type, media	G8 DUALGLASS
	PARTICLE REMOVAL
Mat, seal (VITON)	FLUOROCARBON
Pressure, standard element collapse	7 bar
	100 psi
Temperature range	-20 TO +250 °F
	-29 TO +121 °C
Manufacturer	HYPRO FILTRATION
Manufacturer Part Number	HP75L8-1MV



281

Mechanical Rotary Parts

Part name*O-RING

Equipment name*ROTOFORMER

Equipment model number*B1500

Equipment serial number*N/A

ManufacturerSANDVIK

Manufacturer Part Number021086



282

Spare_parts

Part name O-RING,PACKING
 O-RING,SPRING
Manufacturer SUNDYNE PUMPS
Manufacturer Part Number 14-052UC



283	Fans
Type*	AXIAL, COMPACT
Sweep size*	TBA
Volatge rating*	230 Vac
Frequency*	50 Hz
Phase*	1
Mounting*	TBA
Explosion proof*	TBA
Material, guard*	TBA
Series	4000N
Speed	2650 r/min
Power input	19 W
Ambient temperature range	-10 TO +55 °C
Air flow	160 m³/h
Sound power level	5.4 B
Sound pressure level	46 dB(A)
weight	0.550 kg
Dimensions	119 x 119 x 38 mm
Impeller material	SHEET STEEL, PAINTED BLACK
Housing material	DIE-CAST ALUMINIUM
Airflow direction	Intake over struts
Direction of rotation	CLOCKWISE, VIEWED TOWARD ROTOR
Cable	2 FLAT PLUGS 3.0 x 0.5 mm.
	HOUSING WITH GROUNDING LUGS
	WITH M4 AND UNC THREAD
Motor protection	PROTECTED FROM OVERLOAD BY
	IMPEDANCE PROTECTION
Manufacturer	EBM PAPST
Manufacturer Part Number	4650N



284	Electrical heaters
	Classification, hazard areas II 2G EEx dm IIC
	T3 /
	II D IP65 T 200 °C
Dimensions	WD 80 x DP 80 x HGT
155 mm	
Frequency	TBA
Phase	1
Rating, load	150 W
Voltage	230 Vac
Model	CP MULTITHERM DNA
150 T3 TS	
Height, heater	155 mm (BLOCK N)
Length, connection cable	1 m
Temperature class	T3
Mat, finned heater	BLACK ANODIZED
ALUMINIUM	
Ingress protection	IP68
Enclosure protection	NEMA 4X
Certification	PTB 02 ATEX 1041X
Integrated thermostat for freeze protection in the connection cable temperature maintenance	
Manufacturer	INTERTEC-HESS
Manufacturer Part Number	HAHE-E



285	Fans	
	Type*	TOPTHERM
	Sweep size*	124 mm
	Volatge rating*	230 Vdc
	Frequency*	50 / 60 Hz
	Phase*	TBA
	Mounting*	TBA
	Explosion proof*	IP54
	Material, guard*	TBA
	Current rating	0.12 / 0.11 A
	Power rating	19 / 17 W
	Flow rate	55 / 66 m³/h
	Temperature range	-15 TO +55 °C
	Noise level	46 / 49 dB(A)
	Fuse rating	2 A
	Color code	RAL 7035
	Manufacturer	RITTAL
	Manufacturer Part Number	SK 3238.100



LIFTING

286

Lifting_devices
Type LIFTING BEAM
Material* TBA
Work load limit* 15000 kg
Length 6 MTR
With ROPE
Certification: TYPE 2.1 AS PER EN 10204:2004



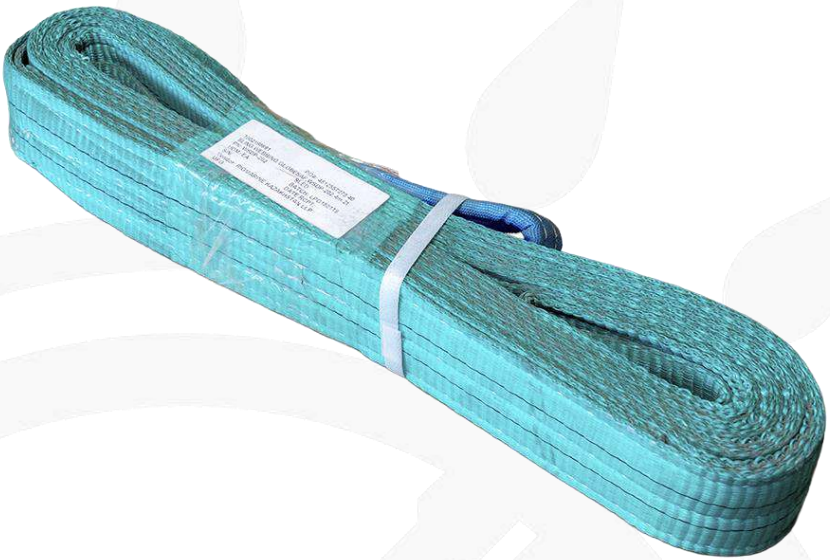
Packaging straps

Mat	POLYESTER
Width	15 mm
Thickness	0.6 mm
Colour	GREEN
Type	WOVEN
Length	ROLL OF 2000 m



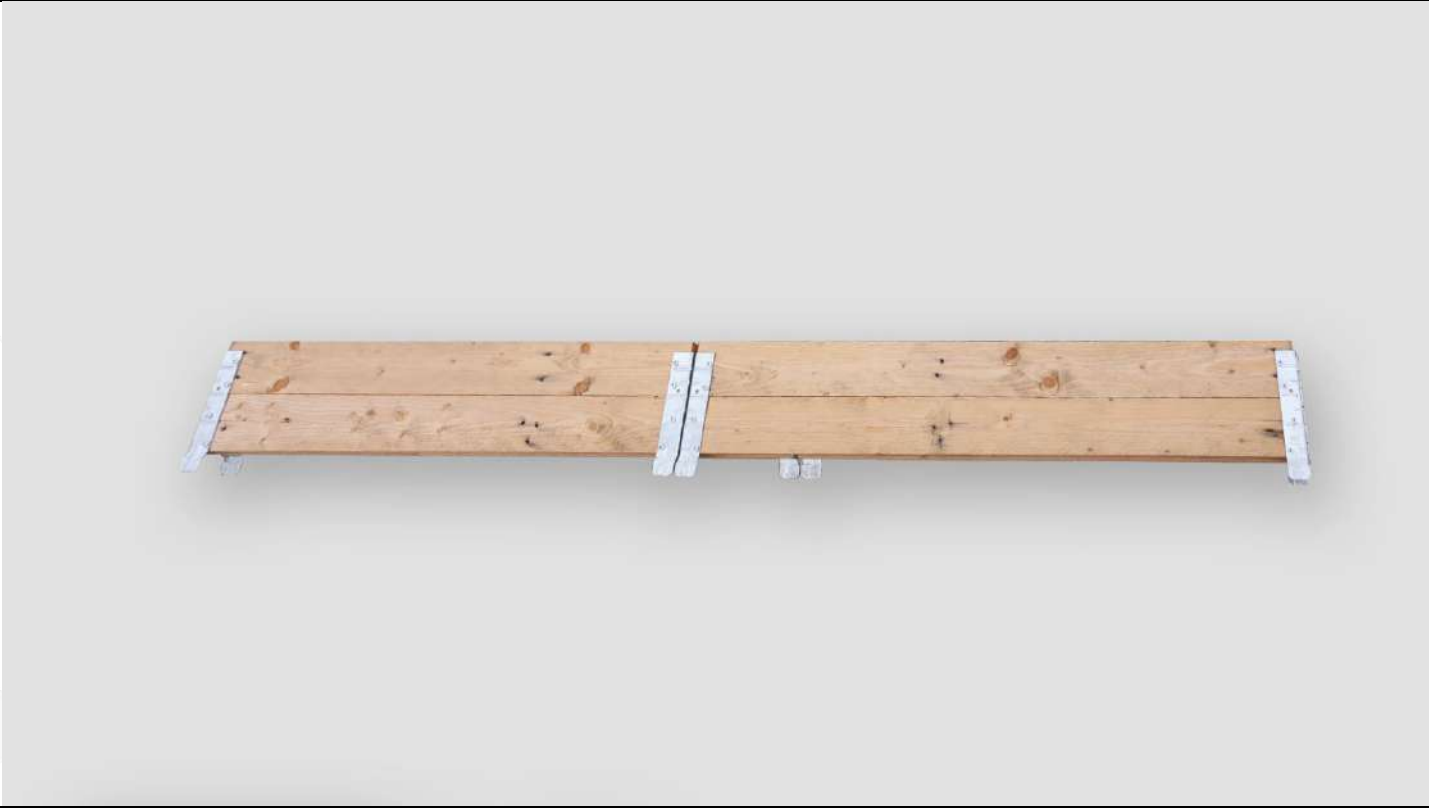
Slings

Type*	DUPLEX WEBBING
Material*	POLYESTER
Safe working load*	2 t
Length*	4 m
Length, circular*	TBA
Safety factor	7:1
Color coded	EN 1492-1
Temperature, operating	-40 TO +100 °C
With reinforced lifting eye	
Manufacturer	GLOBESAFE
Manufacturer Part Number	WSDP-202 (4M)





Slings
Type* ROUND
Material* POLYESTER
Safe working load* 10 t
Length* 4 m
Length, circular* TBA
Safety factor 8:1
Manufacturer GLOBESAFE
Manufacturer Part Number RSEL-10
(4M,10T,8:1)

MISCELLANEOUS			
290	Warehouse_consumables TypeSTACKING FRAME MatWOOD ApplicationSTORAGE PALLET Size, pallet1200 x 1000 mm		

Wire_mesh
Type WOVEN
Mat STAINLESS STEEL
Mat, spec AISI 304
Finish MILL
Width 48 in
Shape, apperture SQUARE
Size, apperture 6 x 6
Diameter, wire 16 GAUGE
 THK 0.063 in
Type, weave PLAIN
Size, opening 0.1037 x 0.1037 in
Length 1200 in
Open area 39%
Weight 1.63 lb/ft²
Product form FULL COIL
Certification: TYPE 2.1 AS PER EN
10204:2004



Mechanical Rotary Parts
Part name* V-ROPE
Material NITRILE
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Certification: TYPE 2.1 AS PER EN
10204:2004



293

Non-metallic sheets/plates
Mat ETHYLENE PROPYLENE DIENE
TERPOLYMER
Density 1.25 g/cm³
Size 1200 mm
Thickness 5 mm
Colour BLACK
Working temperature -40 / +100 °C
(TEMPORARILY +120 °C)
Hardness 65 SHORE A
Elongation at break 250%
Tensile strength 5 MPa
Number, interlayer NO
Form of supply ROLL OF 10 m



294

Mechanical Rotary Parts
Part name* BELT
Equipment name* DIESEL ENGINE
Equipment model number* CFP9E
Equipment serial number* TBA
Certification: TYPE 2.1 AS PER EN 10204:2004



Cleaning eqpt, accessories

Type* SPRAY TIP
Material* STAINLESS STEEL 303
Size* 0.29 TO 2.7 l/min
Size, capacity 02
Diameter, orifice 0.89 mm
Angle, spray 98 TO 123° AT 1.5 TO 15 bar
For nozzle
Certification: TYPE 2.1 AS PER EN 10204:2004



296

Warehouse_consumables
Type PALLET TRUCK



Platforms, mobile

Type	ROLLING LADDER
Mat, platform*	STEEL
Number of step*	7
Load rating*	450 lb
Type, step	SERRATED
Step, width	16 in
Dimensions, platform	HGT 70 x WD 16 x LG 10 in
Base size	WD 27 x 57 in
Mat, finish	GRAY
Capacity	450 lb
Overall height	106 in

Ships unassembled with handrails

Certification: TYPE 2.1 AS PER EN 10204:2004



298	Hardware and Tools	
Type	PLASTIC ANCHOR	
Material	CONCRETE (AERATED), DRYWALL CONCRETE, MASONRY (HOLLOW),	
Length	25 mm	
Model	HUD-1 5X25	
Type	UNIVERSAL	
Size	5 mm	
Type, fixing	THROUGH-FASTENING, PRE-	
SETTING		
Screw size	3.5 TO 4 mm	
Embedment depth	25 mm	
Diameter, drill bit	5 mm	
Hole depth	35 mm	
Manufacturer	HILTI DRILLING & FASTENING	
EQT		
Manufacturer Part Number	248524/1	



299

Earthing_components
Description INSPECTION PIT
Material* CONCRETE
Size* 12.60 x 12.60 x 7.56 in
Electrode material* TBA
Electrode type* TBA
Connection* TBA
Color GREY
Weight 31 kg
Certification: TYPE 2.1 AS PER EN 10204:2004



FILTERS

300

Mechanical Rotary Parts
Part name* DISPOSABLE MODULE
Material PLASTIC
Equipment name* POLISHING AND CHEMICAL
FILTER
Equipment model number* B4-690-GY-301
Drawing number 6051
Position number GR-301 POS 8
Certification: TYPE 2.1 AS PER EN 10204:2004



301

Mechanical Rotary Parts

Part name*	FILTER
Material	ALUMINUM
NYLON	
Dimension	0.8 mm
Equipment name*	AIR TREATMENT CENTRAL HEATING
Equipment model number*	TBA
Equipment serial number*	TBA
Additional information	YGFC07



302

Filters, engineered

Type	LIQUID FILTER CARTRIDGE
Class	TBA
Size	20 μ AT 90%
Series	P
Differential pressure, recommended initial	<(> < > > 2.0 psid
recommended change-out	15 TO 25 psid
Temperature rating, operating	180 °F (MAXIMUM)
Flow Direction	OUTSIDE TO IN
Configuration	SINGLE OPEN END WITH SPRING
Mat, media	POLYPROPYLENE
Mat, supports	TINNED STEEL
Mat, core	TINNED STEEL
Mat, end caps	TINNED STEEL
Mat, gaskets	BUNA
Length	39.8 in
Diameter, outside	2.5 in
Diameter, inside	1 in
Quantity	BOX OF 10 PIECES
Weight	21 lb

Elements specifically designed for the removal of solid contaminant in critical application

Certification: TYPE 2.1 AS PER EN 10204:2004



303

Dampers, fire
Type* BACK DRAFT / NON RETURN
Material* EXTRUDED ALUMINIUM (FRAME)
Dimensions* WD 800 x HGT 400 mm
Series BDS
Model A SQUARE FLANGED
Mat, blade EXTRUDED ALUMINIUM
Riser 40 mm
High temperature and standard linkage component
With linked blade
Certification: TYPE 2.1 AS PER EN 10204:2004



304

Mechanical Rotary Parts
Part name* AIR FILTER ELEMENT
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Certification: TYPE 2.1 AS PER EN 10204:2004



Filters - Mechanical
CODE:G04 Certification: TYPE 2.1 AS PER EN 10204:2004

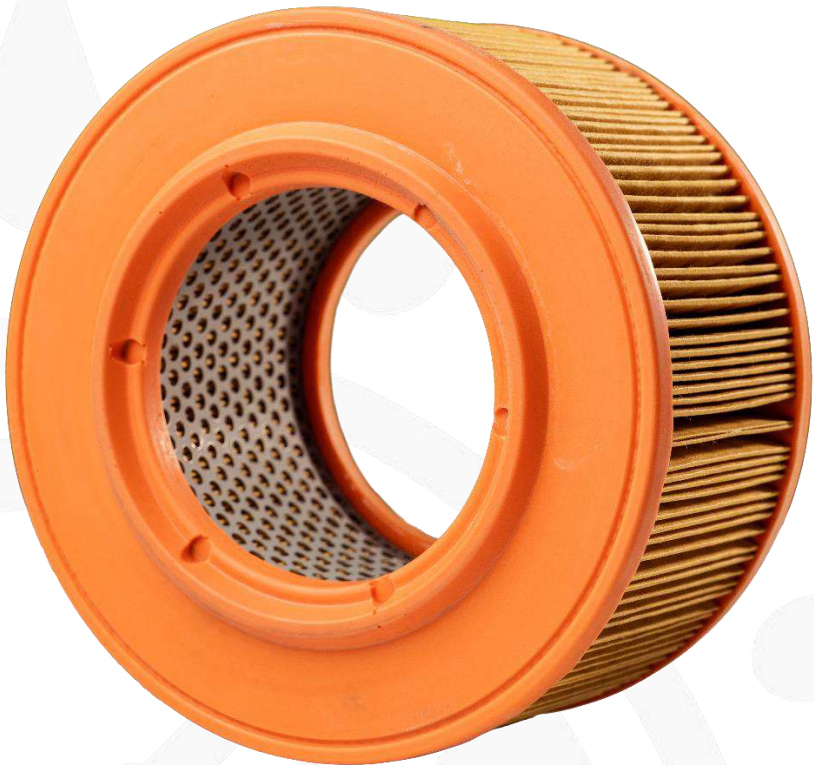


Mechanical Static Parts

Part name* AIR FILTER
Dimension 520 x 580 x 48 mm
Equipment name* CHILLER
Equipment model number* SS-21 (R407c)
Equipment serial number TBA
Position number 5
Additional information:
Class G4
Manufacturer COINTEC
Manufacturer Part Number CFO 520X580X48



307 Mechanical Rotary Parts
Part name* AIR FILTER
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Manufacturer HATZ DIESEL ENGINES
Manufacturer Part Number 01493000



308 Mechanical Rotary Parts
Part name* FUEL FILTER
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Manufacturer PERKINS ENGINE
Manufacturer Part Number 26561117



309

Mechanical Rotary Parts

Part name*OIL FILTER

Equipment name*POWER PACK DESMI 5.2 kW

Equipment model number*HATZ 1D41S

Equipment serial number*N/A

Old Part Number01480000

ManufacturerHATZ DIESEL ENGINES

Manufacturer Part Number01480001



310

Mechanical Static Parts

Part name*	FILTER ELEMENT
Equipment name*	TBA
Equipment model number*	TBA
Equipment serial number	TBA
Manufacturer Old Part Number	HC9604FKS8Z
Manufacturer Old Part Number	HC9604FCS8Z
Manufacturer	PALL
Manufacturer Part Number	HC9604FRS8Z



INSTRUMENT		
311	Mechanical Rotary Parts Part name* TRANSMITTER Equipment name* TBA Equipment model number* TBA Equipment serial number* 7984463 7984464 7984465 7984466 Drawing number SOL06664	
312	Instrument_systems Type ORIFICE Construction* N/A Dimensions* N/A Rating* N/A Mounting* N/A Flow rate 1200 cm³/min Pressure rating 2 bar For calibration line Certification: TYPE 2.1 AS PER EN 10204:2004	

313

Nuts for compression type tube fittings
Type FERRULE
Type, tube METRIC
Type, nut HEAXAGONAL HEAD, COMPRESSION
Mat STAINLESS STEEL
Mat spec, nut(s) ASTM A403M WP-GRADE 316
Size, o.d.tube 6 mm
CODE:G04 Certification: TYPE 2.1 AS PER EN 10204:2004
EAC CERTIFICATE



314

Instrumentation Parts
Part name* PLUNGER
Material STAINLESS STEEL
Dimensions 1/4 in NPT
Equipment name* SPOOL VALVE
Equipment model number* TBA
Equipment serial number* TBA
Additional information:
Type LOW TEMPERATURE
Plunger operated spring return 3-way spool valve
Type OPERATED SPRING RETURN 3-WAY
Certification: TYPE 2.1 AS PER EN 10204:2004



315

Mechanical Rotary Parts
Part name* NORD LOCK
Dimension M20
Equipment name* GAS TURBINE
Equipment model number* SGT-600 GT10B
Equipment serial number* B4538 / B4544 / B4552
Additional information EE-5261-018
Coating GALVANIZED
Certification: TYPE 2.1 AS PER EN 10204:2004



316

Instrumentation Parts
Part name* FITTING
Material STAINLESS STEEL 316
Dimensions 1/2 in NPT x M20
Equipment name* TEMPERATURE TRANSMITTER
Equipment model number* ROSEMOUNT 644
Equipment serial number* N/A
Additional information:
Certification KEMA / CENELEC
Parker part number M20MSC1/2N
Certification: TYPE 2.1 AS PER EN 10204:2004



Public_address_systems

Type	RECEIVER
Material*	N/A
Construction*	N/A
Dimensions*	DIA 38 x WD 21 mm
Rating*	1 mV (RATED) 10 mV (OPERATING)
Mounting*	N/A

Designed to work in a set UPN and PU Park communication.

Sound output at 10 cm	97 dB
Rated impedance	150 ohm
Frequency range	300 TO 4000 Hz

Certification: TYPE 2.1 AS PER EN 10204:2004



318

Instrument body enclosure
Temperature range, ambient N/A
Mat, enclosure GLASS FIBRE
REINFORCEDMounting VERTICAL
Dimensions* HGT 19 x WD 28 x DP 15 in
HGT 490 x WD 710 x DP 390 mmMSW-mounting system.
KA137 0389:
DIABOX 137 SE2 arctic GRP GO FS 2VA4
Surface GO
Insulation ARCTIC GRP
Type, locking SE2
Window SAFETY GLASS WINDOW
Mat, lid propstay STAINLESS STEEL 316 TI



319

General Spare Parts
Part name* PRESSURE GAUGE
Dimensions 1/2 in NPT
Equipment name* TBA
Equipment model number* TBA
Equipment ratings 0 to 5000 psi
Equipment serial number TBA
Manufacturer FMC TECHNOLOGIES
Manufacturer Part Number P2000020282



320

Female compression type tube connectors

Type, tube	METRIC
Mat, body and nut	STAINLESS STEEL 316
Mat, ferrules	STAINLESS STEEL 316
Thread	NPT FEMALE
Size, o.d.tube x threaded end	12 mm x 1/2 in
With, hexagonal	27
Old part number	M12FSC1/2N
Manufacturer	PARKER HANNIFIN
Manufacturer Part Number	M12FSC1/2N-316



321

Instrumentation Parts

Part name*ACCESSORY KIT

Equipment name*TANK LEVEL TRANSMITTER

Equipment model number*MCOM253 + COS41

Equipment serial number*7C0C3D05G00

F1018CO5000

Additional information:

ModelCOY31-Z

The kit contains the following parts;

S.no	Description	Model
1.	ELECTROLYTE	COY3F
2.	MEMBRANE CAP	COY31-WP
3.	SEALING RING	COY31-OR
4.	POLISHING FOIL	COY3-PF

ManufacturerENDRESS + HAUSER

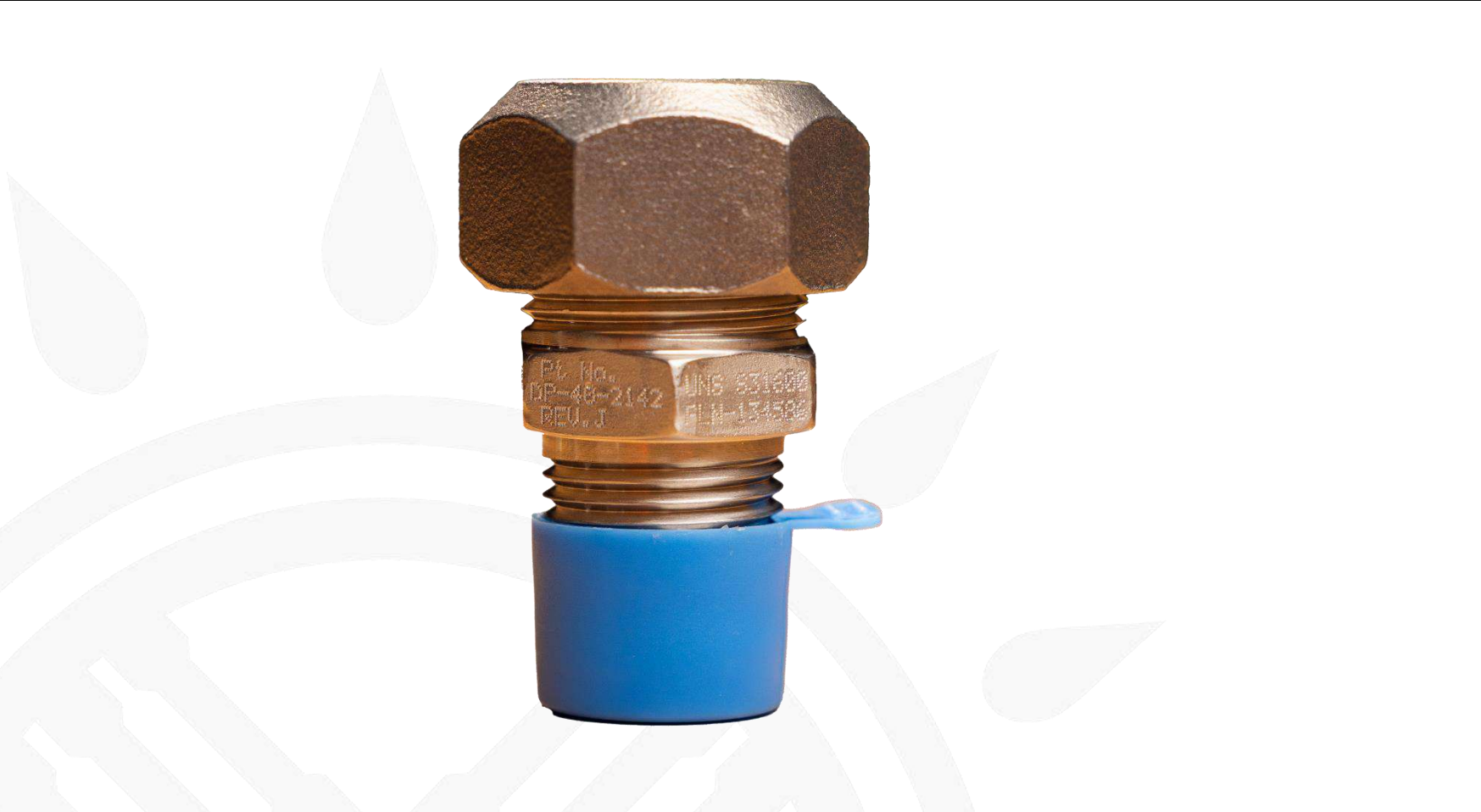
Manufacturer Part Number51506784



322

Instrumentation Parts

Part name*	BLEEDER PLUG
Equipment name*	TBA
Equipment model number*	TBA
Additional information	1/2 LP
Working pressure	10 K
Suitable for system 1-3	
Manufacturer	PACSON
Manufacturer Part Number	DP-48-2142



323

General Spare Parts
Part name* SHEAR PIN
Material NAVAL BRASS
Dimensions OD 0.711 x LG 3.61 in
Equipment name* TBA
Equipment model number* TBA
Equipment serial number TBA
Manufacturer FMC TECHNOLOGIES
Manufacturer Part Number 48-104-078



324

General Spare Parts

Part name*

DHCV NEEDLE VALVE EXIT BLOCK

Dimensions

1.1/8 in

Equipment name*

TBA

Equipment model number*

TBA

Equipment serial number

TBA

Additional information:

Location

SURFACE

Type, thread

AUTOCLAVE

Pressure rating

15 kpsi

Mat classification

EE

Product spec level (psl)

3

Temperature classification

L-U

With FMC standard SBMS and 4 bolt DHCV block

Connection configuration

Suitable for system 1-2-3

Supplier name

PACSON

Supplier part number

GA7034

Manufacturer

FMC TECHNOLOGIES

Manufacturer Part Number

P208696



325 General Spare Parts
Part name* BLEEDER AND TEST PLUG ASSEMBLY
Material STAINLESS STEEL
Vendor name PACSON
Equipment name* TBA
Equipment model number* TBA
Equipment serial number TBA
Additional information:
Design spec API 6A
Pressure rating 15 kpsi
Size, thread 1.125 in
Type, thread 12 UNF
Thread class symbol 2A
1. Suitable for system 1-2-3
Manufacturer FMC TECHNOLOGIES
Manufacturer Part Number P201672-0007



326 Machine_monitoring_systems
Type PROXIMITY SENSOR
Type, mounting* DIN
Temperature rating* -52 TO +100 °C
-62 TO +212 °F
Diameter, probe* 5, 8 mm
Size, thread* N/A
Length* 29.5 ft
9 m
Series 3300 XL
Mat, shaft INCONEL 718
CT-0098 (BOHLER L343)
Classification, hazardous area CSA, ATEX, IECEx
Modification order number 163358-02
Used for Offshore flash gas compressors
Equipment name CENTRIFUGAL COMPRESSOR
Equipment model STC-SV(8-7-B)
Equipment serial number CP101353, CP101355, CP101357
Manufacturer BENTLY NEVADA
Manufacturer Part Number 330180-91-05 MOD. 163358-02



327	Temperature switches
Type, sensing element	ELECTRONIC LINE SENSING THERMOSTAT
Ingress protection, enclosure	IP66
Length, capillary	2 m
Temperature range	-55 TO +260 °C
Rating, contact	32 A RESISTIVE LOAD
Temperature, operating, max	-40 TO +60 °C
Supply voltage	230 V +10 / -15%
Frequency	50/60 Hz
Application	SURFACE SENSING
Power consumption	3 VA (INTERNAL)
Sensor lead resistance	20 Ohm (MAXIMUM)
Type, output relay	SINGLE POLE CHANGE OVER TYPE (SPST)
Enclosure:	
Dimensions	122 x 120 x 90 mm
Entries:	1 x M25 GLAND FOR POWER CABLE IN 1 x M25 RAIN PLUG FOR HEATING CABLE OUT
Type, sensor	M16 GLAND WITH 3 WIRE PT100 FLEXIBLE SENSOR
Temperature setpoint	0 TO 199 °c
With earth plate	
Supplier name	NVENT
Supplier part number	1244-017508
Manufacturer	RAYCHEM
Manufacturer Part Number	ETS-05-L2-EP



Leak detectors
Type, container BOTTLE
Range -2 TO +93 °C
 -27 TO +200 °F
Size BOTTLE OF 1 gal
Form LIQUID
Brand SNOOP
Manufacturer SWAGELOK
Manufacturer Part Number MS-SNOOP-GAL



329 Proximity switches

Mat, body STAINLESS STEEL

Classification, hazard areas ATEX 1G, ATEX 2G, ATEX 1G

Configuration, contact NAMUR NC

Connection, electrical TBA

Ingress protection, enclosure IP67

Range, measuring 0 TO 6.48 mm (ASSURED)
8 mm (RATED)

Rating, contact 8 V

Mounting TBA

Type INDUCTIVE

Installation NOT EMBEDDABLE

Polarity, output NAMUR

Reduction factor rAl 0.42

Reduction factor rCu 0.4

Reduction factor rV2A 0.72

Rated voltage 8 V

Frequency, switching 0 TO 500 Hz

Hysteresis 1 TO 15 TYPE 5%

Short circuit protection YES

Type, connection CABLE

Mat, cable POLYVINYL CHLORIDE

Length, cable 10 m

Core cross-section 0.75 mm²

Mat, sensing face POLYBUTYLENE TEREPHTHALATE

Temperature range, ambient -25 °C TO +100 °C
248 K TO 373 K

Temperature range, storage -40 °C TO +100 °C
233 K TO 373 K

Standards EN 60947-5-2:2004
IEC 60947-5-2:2004
DIN EN 60947-5-6 (NAMUR)

Current consumption:

Measuring plate not detected >= 3 mA

Measuring plate detected >= 1 mA

Indication, switching LED, YELLOW (ALL DIRECTION)

Protected against reverse polarity

Manufacturer PEPPERL+FUCHS

Manufacturer Part Number NCN8-18GM40-N0-10M

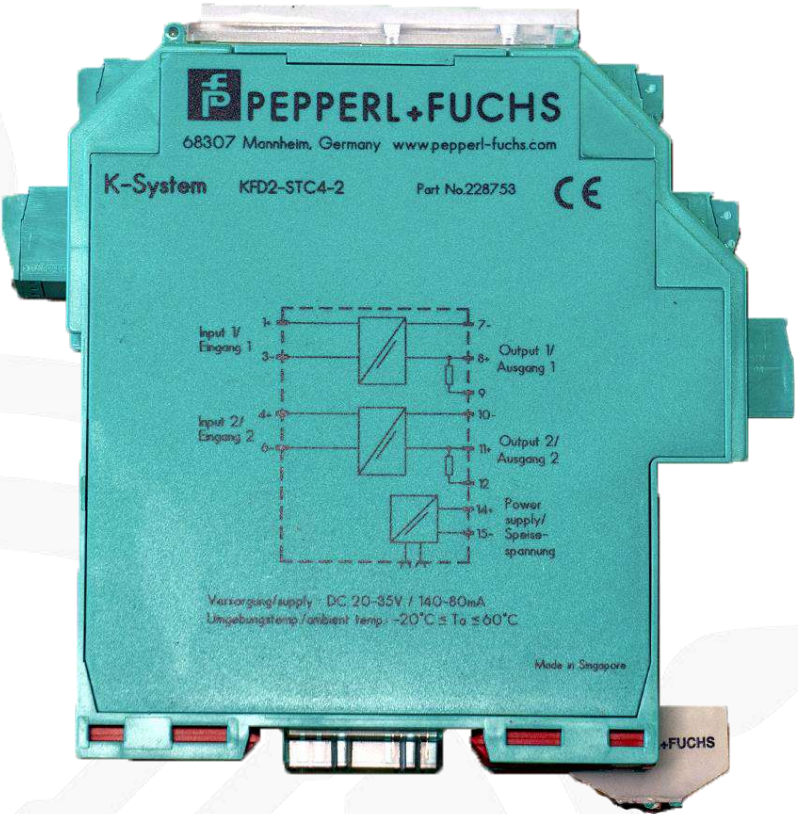


330	Valves	
	Type*	BALL, 2-WAY STRAIGHT
	Nominal size*	1/2 in
	Pressure rating*	6000 psi
	Type, connections*	NPT FEMALE
	Mat, body*	STAINLESS STEEL 316
	Type	HIGH PRESSURE
	Color, handle	BLACK
	Style, handle	PHENOLIC HANDLE
	Mat, ball	STAINLESS STEEL
	Mat, O-ring	FLUOROCARBON (FKM)
	Mat, seat	POLYCHLOROTRIFLUOROETHYLENE (PCTFE)
	Mat, stem	STAINLESS STEEL
	Testing	ACCORDING TO WS-22
	Size, orifice	0.187 in 4.7 mm
	Temperature rating	250 °F AT 1000 psig (MAX) 121 °C AT 68.9 bar (MAX)
	Lubricant	CHRISTO-LUBE MCG 111 (WL8)
	Manufacturer	SWAGELOK
	Manufacturer Part Number	SS-83KF8



331

Power_supplies	
Voltage, output	24 Vdc
Current, output	0/4 TO 20 mA
Power rating	1.8 W
Voltage, input	>=16 V AT 20 mA
Enclosure	TBA
Temperature rating	-20 TO +60 °C
Mounting	POWER RAIL
Communication protocol	HART
Type, signal	ANALOG INPUT
Signal, output	4 TO 20 mA
Voltage rating	20 TO 35 Vdc
Ingress protection	IP20
Number of channel	SINGLE
Dimensions	20 x 124 x 115 mm
Old part number	KFD2-STC4-2-115401
For input 2-wire smart transmitters	
Manufacturer	PEPPERL+FUCHS
Manufacturer Part Number	228753



332

Testing_and_measuring_equipment			
Type	DIGITAL VOLTMETER SWITCHBOARD INSTRUMENT		
Material*	BRASS (TERMINAL)		
Construction*	N/A		
Dimensions*	72 x 72 mm		
Range*	0 TO 600 Vac (MEASURING)		
Rating*	230 Vac		
Mounting*	PANEL		
Type, display	LED		
Colour, LED	RED		
Height, display	14 mm		
Frequency	50 / 60 Hz		
Burden	1 VA		
Operating temperature range	-10 TO +55 °C		
Storage temperature range	-40 TO +70 °C		
Standard	DIN 43700/43718		
Electrical standard	CEI 13-6 - CEI 66-2 - CEI 66-3	IEC 359	
Ingress protection	IP52, IP00, IP40		
Range	99.9 TO 600 V		
Range selectable with mini dipswitches			
Manufacturer	REVALCO		
Manufacturer Part Number	2RID72 V S 600		



333	Valves Type*	BALL, 2-WAY STRAIGHT
	Nominal size*	1/8 in
	Pressure rating*	414 bar
		6000 psi
	Type, connections*	TUBE FITTING
	Mat, body*	STAINLESS STEEL 316
	Mat spec, body	ASTM A351 GRADE CF3M
	Temperature, min	-54 °C
	Temperature, max	+177 °C
	Mat, seals	PTFE
	Type, operating	MANUAL
	Mounting	PANEL
	Mat, seat	PCTFE
	Flow co-efficient (Cv)	1.04
	Locking device	HANDLE
	Connection	COMPRESSION
	Connection style	A-LOK
	Size, inlet	1/8 in
	Size, outlet	1/8 in
	Manufacturer	PARKER HANNIFIN
	Manufacturer Part Number	M6A-B6LJ2-SSP



Threaded pipe bushings
Mat STAINLESS STEEL 316
Mat spec, fitting TBA
Type head HEXAGONAL
Type of thread NPT MALE x NPT FEMALE
Pressure designation TBA
Size 1 x 1/2 in
Type* REDUCING
Manufacturer SWAGELOK
Manufacturer Part Number SS-16-RB-8



Compression type tube unions
Type STRAIGHT
Type, tube METRIC
Mat, body and nut STAINLESS STEEL 316
Mat, ferrules TBA
Size, o.d.tube 6 mm
Connection DOUBLE FERRULE COMPRESSION
Dimension 41.2 x 6 mm
Manufacturer PARKER HANNIFIN
Manufacturer Part Number SCM6-316



Compression type reducing unions

Type	A-LOK
Type, tube	METRIC
Mat, body and nut	STAINLESS STEEL 316
Mat, ferrules	STAINLESS STEEL 316
Size, o.d.tube	8 x 6 mm
Mat spec, body & nut	NUT THREADS SILVER PLATED
	ASTM A403M WP-GR 316
Mat spec, ferrules	ASTM A403M WP-GR 316
MESC number	7639704519
Manufacturer	PARKER HANNIFIN
Manufacturer Part Number	M8-RUM-6-316



Female compression type tube connectors

Type	COMPRESSION
Type, tube	METRIC
Mat, body and nut	STAINLESS STEEL 316
Mat, ferrules	STAINLESS STEEL 316
Thread	NPT FEMALE
Design spec, thread	ANSI/ASME B1.20.1 1983
Size, o.d.tube x threaded end	10 mm x 1/4 in
Mat spec, body / nut	ASTM A403M GRADE WP316
Mat spec, ferrules	ASTM A403M GRADE WP316
Brand	A-LOK
Proposal KW/Y1/291/94/76	
Manufacturer	PARKER HANNIFIN
Manufacturer Part Number	M10-FSC-1/4N-316



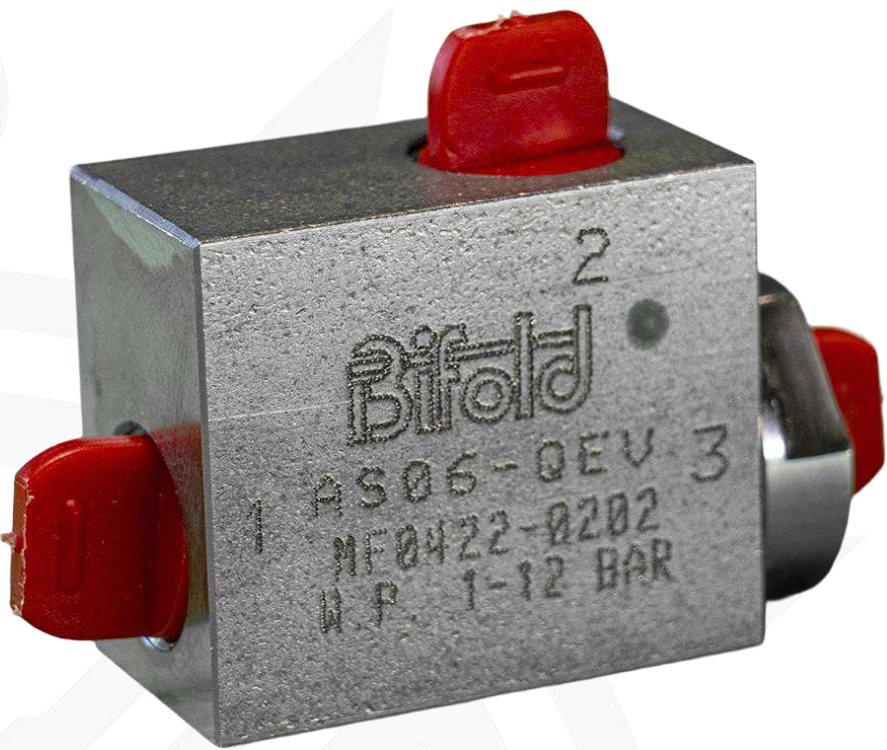
Compression type reducing unions
Type SWAGELOK
Type, tube METRIC
Mat, body and nut STAINLESS STEEL 316
Mat, ferrules STAINLESS STEEL 316
Mandatory add reqrmts MESC SPE 76/039 1995
Size, o.d.tube 12 x 6 mm
Former manufacturer CRAWFORD FITTINGS
Manufacturer SWAGELOK
Manufacturer Part Number SS-12M0-6-6M



Compression type tube union tees
Type EQUAL
Type, tube METRIC
Mat, body and nut STAINLESS STEEL 316
Mat, ferrules STAINLESS STEEL 316
Size, o.d.tube 12 mm
Brand A-LOK
Manufacturer PARKER HANNIFIN
Manufacturer Part Number ETM12-316



Valves	
Type*	PNEUMATIC QUICK EXHAUST
Nominal size*	1/4 in NPT
Pressure rating*	1 TO 12 bar
Type, connections*	THREAD
Mat, body*	STAINLESS STEEL
Mat spec, body	AISI 316L
Size, fastener	METRIC A4 18/10
Mat, fastener	STAINLESS STEEL 316
Mat, seat	VITON (STANDARD)
Temperature range	-50 TO +40 °C
Manufacturer	BIFOLD FLUIDPOWER
Manufacturer Part Number	AS06-QEV-01



Compression type tube unions
Type COMPRESSION
Type, tube METRIC TO IMPERIAL
Mat, body and nut STAINLESS STEEL 316
Mat, ferrules STAINLESS STEEL 316
Size, o.d.tube 6 mm x 1/4 in
Size, end connection 1 6 mm
Size, end connection 2 1/4 in
Former manufacturer CRAWFORD FITTINGS
Manufacturer SWAGELOK
Manufacturer Part Number SS-6M0-6-4



Threaded pipe nipples	
Mat	STAINLESS STEEL 316
Mat, spec	AISI 316
Type of thread	NPT MALE x NPT MALE
End preparation	TBA
Schedule number	N/A
Thickness, wall	N/A
Length	TBA
Size	1/4 x 1/4 in
Service	NON-SOUR
Type	HEXAGONAL
Manufacturer	SWAGELOK
Manufacturer Part Number	SS-4-HN



Male compression type tube connectors

Type	SWAGELOK
Type, tube	IMPERIAL
Mat, body and nut	STAINLESS STEEL 316
Mat, ferrules	STAINLESS STEEL 316
Mat, sealing ring	STAINLESS STEEL 316
Thread	NPT
Design spec, thread	ASME B1.20.1
Mandatory add reqrmts	MESC SPE 76/039 1995
Standard drawing	MESC STD D S-37.808 LV
Size, o.d.tube x threaded end	1/4 x 1/4 in
MESC code	7639275431
Manufacturer	SWAGELOK
Manufacturer Part Number	SS-400-1-4
MESC code	7639275431



Male compression type tube connectors

Type	COMPRESSION
Type, tube	IMPERIAL
Mat, body and nut	STAINLESS STEEL 316
Mat, ferrules	STAINLESS STEEL 316
Mat, sealing ring	TBA
Thread	NPT MALE
Size, o.d.tube x threaded end	1/8 x 1/4 in
Manufacturer	SWAGELOK
Manufacturer Part Number	SS-200-1-4



Cable	
Type*	FLAT CONNECTION
Material*	TBA
Ratings*	HART
Length*	1 m
Model	K-HM26
Communication protocol	HART
Number of pin	26
Type, connection	IDC FEMALE
Ambient temperature	0 TO 55 °C
Relative humidity	5 TO 90%
Manufacturer	PEPPERL+FUCHS
Manufacturer Part Number	114025



Valve actuators	
Type, operating	SPRING RETURN ELECTRICAL
Size, valve	TBA
Voltage rating	24 TO 230 V (AC/DC)
Torque	30 N.m
With 2 contacts + circuit	
Electrical connection	SB3.2
Manufacturer	SCHISCHEK
Manufacturer Part Number	INMAX-30-SF3



Instrumentation Parts

Part name* DISCRETE INTF OUTPUT MODULE
Vendor name INVENSYS PLC
Vendor part number P0916TA
Equipment name* DISTRIBUTION CONTROL SYSTEM
Equipment model number* TBA
Equipment serial number* TBA
Additional information FBM242, EXTERNALLY SOURCED
Voltage range 15 TO 60Vdc
120Vac / 125Vdc / 240Vac
Current rating 2 A
Number, output 16 CHANNEL
Manufacturer SCHNEIDER ELECTRIC
Manufacturer Part Number RH916TA



Cable Type*	FIBER OPTIC
Application	REDUNDANCY MODULE
Material*	TBA
Ratings*	TBA
Length*	1 m
	3.28 ft
Manufacturer	ALLEN BRADLEY
Manufacturer Part Number	1756-RMC1



349

Instrumentation Parts

Part name*	ANALOG INPUT MODULE
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Equipment name*	CONTROL LOGIC UNIT
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Equipment model number*	TBA
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Equipment serial number*	TBA
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Additional information:

Reference	AI 8 x 16 BIT, CARD
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Manufacturer	SIEMENS
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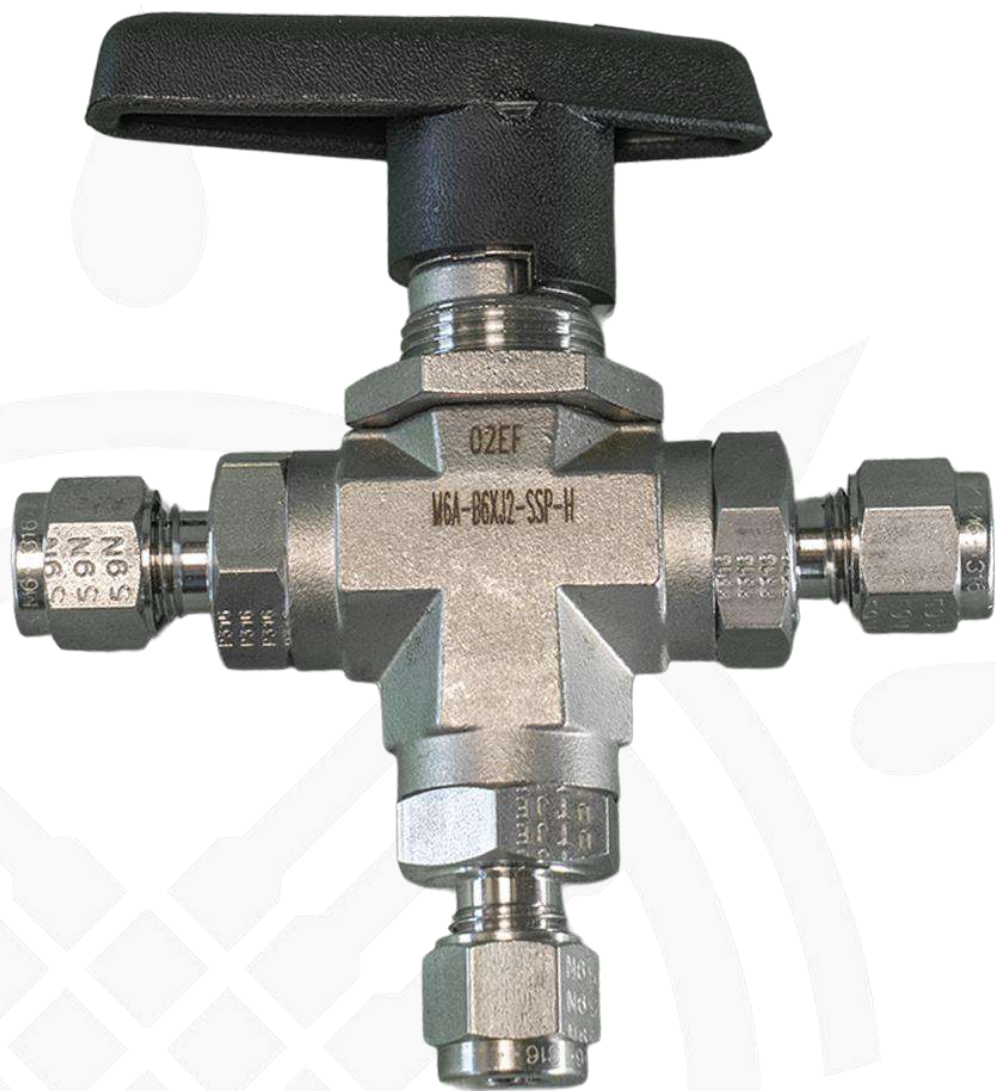
Manufacturer Part Number	6ES7331-7NF00-0AB0
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350	Solenoid valve
Model	FP10P
Type	3 WAY, 2 POSITION DIRECT ACTING
Mat, body	STAINLESS STEEL 316L
Mat, seats	TBA
Mat, disc(s)	TBA
Mat, gasket(s)	TBA
Size, orifice	TBA
Connection, air	1/4 in NPT
Connection, electrical	M20 x 1.5
Power supply	24 Vdc
Power consumption	5.7 W
Type, coil	TBA
Classification, hazard areas	Ex d IIC T6, T5 or T4
Ingress protection, enclosure	IP66/67,NEMA 4X
Valve position	NORMALLY UNIVERSAL
Pressure,operator	10 bar
Mat,O-ring	FLUOROSILICONE
Solenoid approval	ATEX/IECEX
Certification	GOST K GGTN
Flow co-efficient	0.75
Manufacturer Old Part Number	FP10P-S1-04-32-NU-AL-77A9-24D-57
Manufacturer	BIFOLD FLUIDPOWER
Manufacturer Part Number	FP10P-S1-04-32-NU-AL-77A-24D-57



Valves	
Type*	3-WAY BALL
Nominal size*	6 x 6 mm
Pressure rating*	0 TO 7 bar
Type, connections*	A-LOK
Mat, body*	STAINLESS STEEL 316
Temperature rating	-54 TO +177 °C
Mat, seat	PCFTE
Brand	A-LOK
Manufacturer	PARKER HANNIFIN
Manufacturer Part Number	M6A-B6XJ2-SSP



Power_supplies	
Voltage, output	24 Vdc
Current, output	40 A
Power rating	960 W
Voltage, input	110 TO 240 Vac
Enclosure	TBA
Efficiency	0.92
Temperature rating	TBA
Mounting	HORIZONTAL DIN RAIL
Model number	QUINT-PS-100-240AC/24DC/40
Frequency range	45 TO 65 Hz
Number of phase	1
Type, connection	SCREW
Ingress protection	IP 20
Dimension	240 x 130 x 125 mm
Equipment manufacturer	FORES ENGINEERING
Manufacturer	PHOENIX CONTACT
Manufacturer Part Number	2938879



353	Electronic gauge pressure transmitters
Connection, process	ALTERNATE
Mat, proc and kidney flanges	ALLOY 276
Mat, isolating diaphragm	HASTELLOY C-276
Mat, sensor fill fluid	SILICONE
Mat, drain and vent valve	ALLOY 276
Classification, hazard areas	TECHNICAL REGULATION CUSTOMS
	UNION (EAC)INTRINSIC SAFETY
Ingress protection	TBA
Pressure rating, static	TBA
Temp. limits, silicon fill	TBA
Temperature limits, inert fill	TBA
Inspection, certif	CALIBRATION CERTIFICATE
Nace, cert.	NACE MR0175/ISO 15156
Mat, electronics housing	POLYURETHANE-COVERED ALUMINUM
Connection, electrical	M20 x 1.5
Communication protocol (smart)	HART
Signal, output	4 TO 20 mA
Option, meter	LCD DISPLAY WITH LOCAL OPERATOR INTERFACE
Span limits	TBA
Range limits	-0.98 TO +20.7 bar -14.2 TO +300 psi
Range, calibrated pressure	TBA
Model	3051C
Power supply	10.5 TO 42.4 Vdc
Service	TBA
Mat,o-ring	GLASS FILLED PTFE
Mat, bolt	STAINLESS STEEL 316
Type, protection	TRANSIENT TERMINAL BLOCK
Certification	MATERIAL TRACEABILITY
Test	HYDROSTATIC TESTING WITH CERTIFICATE
Level, alarm	ANALOG OUTPUT COMPLIANT WITH NAMUR NE43, HIGH ALARM
Manufacturer	ROSEMOUNT
Manufacturer Part Number	3051CG4A03A1BH3IML4M4T1Q4Q15Q8C4P1



354	Gas detectors
Type, gas	CORBON MONOXIDE (CO)
Humidity	0 TO 100% RH, NON-CONDENSING
Ambient temperature	-40 TO +65 °C
Mat, body	GLASS FIBRE REINFORCED POLYESTER
Connection(s)	2 WIRE
Signal, output	4 TO 20 mA
Standard, communication	HART
Ingress protection	IP66/67
Range	0 TO 1000 ppm (MAXIMUM) 0 TO 300 ppm (DEFAULT) 0 TO 50 ppm (MINIMUM)
Power rating	TBA
Power supply	16.5 TO 30 Vdc
Model number	POLYTRON 2
Type	ELECTROCHEMICAL SENSOR
For installation to Polytron 7000 or Polytron 2 detector	
Manufacturer	DRAEGER SAFETY
Manufacturer Part Number	6809605



355

Sensors, conductivity

Type

RETRACTABLE TEFZEL pH/ORP

Cell constant

TBA

Temperature, maximum

TBA

Pressure, operating, max

TBA

Mat, electrode

HEMI GLASS

Mat, insulator

TBA

Mat, o-ring(s)

KALREZ

Mat, body

TITANIUM

Model

398RVP

Type, measuring electrode

GENERAL PURPOSE HIGH
TEMPERATURE GPHT 0 TO 14 pH

Compatibility, analyzer/TC

PT100

Trademark

TUpH

Length, sensor

21 in

Equipment manufacturer

SIEMENS

Equipment part number

398RVP-10-21-32-54

Manufacturer

ROSEMOUNT ANALYTICAL

Manufacturer Part Number

398RVP-10-21-32-54



356

Instrumentation Parts

Part name* BODY GASKET

Equipment name* CONTROL VALVE

Equipment model number* TBA

Equipment size 12 in

Equipment serial number* TBA

Additional information:

Reference 41005

Manufacturer DRESSER

Manufacturer Part Number 00-400119600826-0000



357

Instrumentation Parts

Part name*POWER CARD

Equipment name*ON/OFF ACTUATED VALVE

Equipment model number*VBA3030-RB-CL300-RF-12x10in

Equipment serial number*1082914

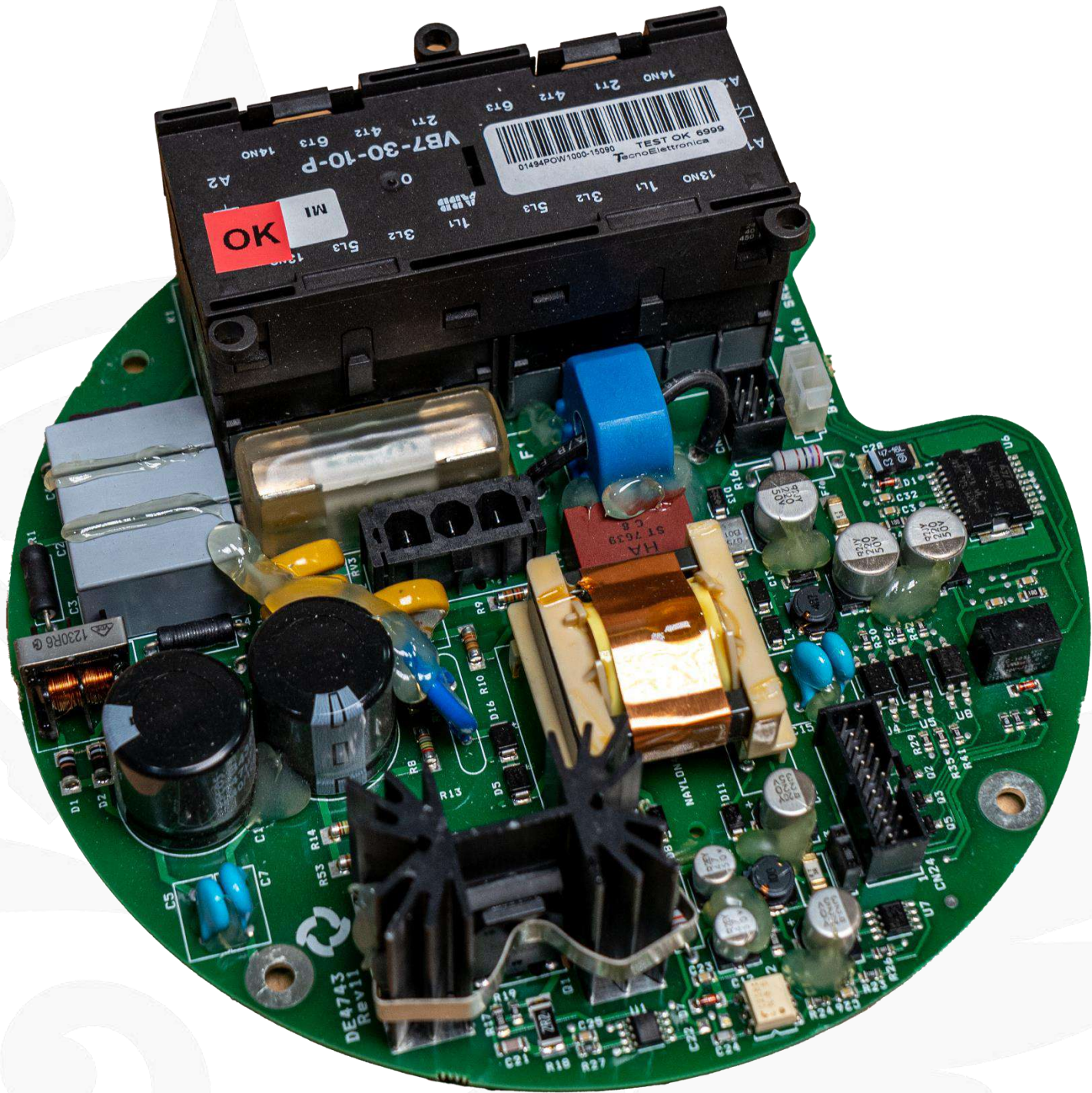
Drawing numberMAN618

Position number50

Additional informationTYPE:3

ManufacturerBIFFI ITALIA S.R.L

Manufacturer Part Number494POW1000



358	Pressure gauges
Model number	BDT18
Design spec	EN 837-1
Mounting	DIRECT
Size	160 mm
Type, sensing element	TBA
Connection, process	1/2 in NPT MALE
Construction, sensing element	TBA
Mat, wetted parts	STAINLESS STEEL 316
Mat, case	STAINLESS STEEL 316L
Liquid filling	GLYCERINE
Ingress protection	IP65
Signal, input	TBA
Range	0 TO 6 bar
Pointer	FIXED
Window	GLASS
Process connection:	
Size	1/2 in NPT-M
Position	BOTTOM
Material	SS316(L)
Gauge saver	NO
Snubber	NO
Syphon	BDT42, SS316(L)
Diaphragm seal:	
Type	NO
Connection	NO
Body	NO
Diaphragm	NO
Filling oil	NO
Specific feature	FULL WELDED
NACE Certificate	NO
Calibration certificate	YES
Manufacturer	BADOTHERM
Manufacturer Part Number	BDT18-S-160-A-N12M-S363-F-G-B42-10



359	Threaded pipe bushings
Mat	STAINLESS STEEL 316
Mat spec, fitting	TBA
Type of thread	NPT MALE x NPT FEMALE
Pressure designation	TBA
Size	3/4 x 1/2 in
Type*	REDUCING
Former manufacturer	CRAWFORD FITTINGS
Manufacturer	SWAGELOK
Manufacturer Part Number	SS-12-RB-8



360

Male compression type tube connectors

TypeSWAGELOK

Type, tubeMETRIC

Mat, body and nutSTAINLESS STEEL 316

Mat, ferrulesSTAINLESS STEEL 316

Mat, sealing ringTBA

ThreadNPT MALE

Design spec, threadANSI/ASME B1.20.1 1983

Size, o.d.tube x threaded end12 mm x 1/4 in

ManufacturerSWAGELOK

Manufacturer Part NumberSS-12M0-1-4



361

Threaded pipe plugs
Mat STAINLESS STEEL 316L
Mat, spec AISI 316L
Type head HEXAGONAL
Type of thread NPT MALE
Pressure designation 4600 psig
Service(s) NON-SOUR
Size 1 in
Length 34 mm
Manufacturer PARKER HANNIFIN
Manufacturer Part Number 16 PH-SS



362	Compression type tube male elbows
Type	STUD
Type, tube	METRIC
Mat, body and nut	STAINLESS STEEL 316
Mat, ferrules	STAINLESS STEEL 316
Thread	NPT MALE
Design spec, thread	ANSI/ASME B1.20.1 1983
Angle	90°
Size, o.d.tube x threaded end	6 mm x 1/8 in
Brand	A-LOK
Mat spec, body/nut	ASTM A403M GRADE WP316
Mat spec, ferrule	ASTM A403M GRADE WP316
Coating, nut	SILVER PLATED THREAD
Manufacturer	PARKER HANNIFIN
Manufacturer Part Number	M6-MSEL-1/8N-316



363	Male compression type tube connectors
Type	SWAGELOK
Type, tube	METRIC
Mat, body and nut	STAINLESS STEEL 316
Mat, ferrules	STAINLESS STEEL 316
Mat, sealing ring	STAINLESS STEEL 316
Thread	NPT MALE
Design spec, thread	ASME B1.20.1
Mandatory add reqrmts	MESC SPE 76/039
Size, o.d.tube x threaded end	12 mm x 1/2 in
Manufacturer	SWAGELOK
Manufacturer Part Number	SS-12M0-1-8



364	Electronic d/p transmitters	
	Connection, process	FLANGED
	Mat, isolating diaphragm	STAINLESS STEEL 316L
	Mat, sensor fill fluid	SILICONE OIL
	Mat, drain and vent valve	STAINLESS STEEL
	Classification, hazard areas	TECHNICAL REGULATION CUSTOMS
	UNION (EAC)INTRINSIC SAFETY	
	Ingress protection	TBA
	Pressure rating, static	TBA
	Temperature limits, process	TBA
	Inspection, certif	CALIBRATION CERTIFICATE
		MAT TRACEABILITY CERTIFICATION
		PER EN 10204 3.1
	Mat, electronics housing	POLYURETHANE COVERED ALUMINUM
	Connection, electrical	M20 x 1.5
	Communication protocol (smart)	HART
	Signal, output	4 TO 20 mA WITH DIGITAL SIGNAL
	Option, meter	LCD DISPLAY WITH LOI
	Option, mounting	BRACKET FOR 2 in PIPE / PANEL
	Span limits	TBA
	Range limits	-250 TO +250 inH2O
		-621.6 TO +621.6 mbar
	Model	3051C
	Power supply	10.5 TO 42.4 Vdc
	Mat spec, body & kidney flange	TBA
	Service	TBA Type
	Type, measurement	DIFFERENTIAL
	Mat, o-ring	GLASS-FILLED PTFE
	Mat, mounting bracket	STAINLESS STEEL
	Size, flange adapter	1/2 in - 14 NPT
	Mat, flange	STAINLESS STEEL
	Mat, bolt	AUSTENITIC STAINLESS STEEL 316
	D/V valve sealing	LOCTITE 577 (INSTEAD OF TFE)
	Old part number	3051CD2A22A1BB4IML4M5Q4DFA0145
	Manufacturer	ROSEMOUNT
	Manufacturer Part Number	3051CD2A22A1BB4IML4M4Q4Q8DFA0145



365

Electronic gauge pressure transmitters

Connection, process1/2 in - 14 NPT FEMALE

Mat, proc and kidney flangesTBA

Mat, isolating diaphragmSTAINLESS STEEL 316L

Mat, sensor fill fluidSILICONE

Mat, drain and vent valveTBA

Classification, hazard areasTECHNICAL REGULATION

CUSTOMSUNION (EAC)INTRINSIC SAFETY

Ingress protectionIP66 / 68

Pressure rating, staticTBA

Temp. limits, silicon fill-40 TO +121 °C

Temperature limits, inert fillTBA

Inspection, certifCALIBRATION CERTIFICATE

MAT TRACEABILITY CERTIFICATION

PER EN 10204 3.1

Mat, electronics housingSTAINLESS STEEL 316L

Connection, electricalM20 x 1.5 (CM20)

Communication protocol (smart)HART

Signal, output4 TO 20 mA WITH DIGITAL SIGNAL

Option, mountingBRACKET FOR 2 in PIPE / PANEL

Span limitsTBA

Range limits-1.0 TO +276 bar

-14.7 TO +4000 psi

Range, calibrated pressure0 TO 20 bar

Model3051S

Power supply12 TO 42 Vdc

ServiceTBA

TypeSCALABLE ULTRA

Type, connectionIN-LINE

Style, housingPLANTWEB

Performance classULTRA

Span accuracy0.025%

Rangedown200:1

Stability10 YR Warranty, limited12 YR

Mat, mounting bracketSTAINLESS STEEL

Old part number3051S1TG4A2E11A1KB4IM

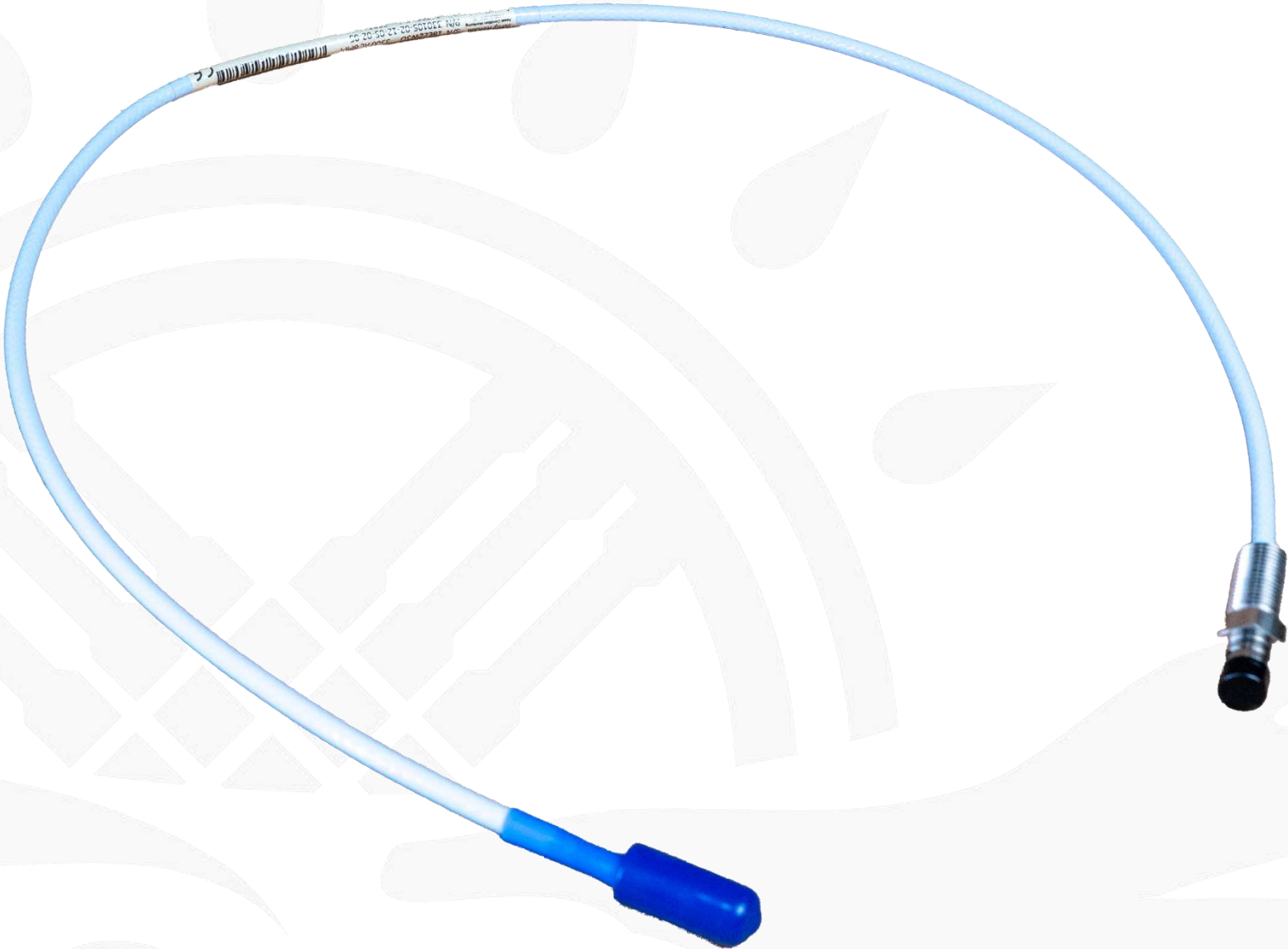
ManufacturerROSEMOUNT

Manufacturer Part Number

3051S1TG4A2E11A1KB4IMQ4Q8



366	Instrument_systems
Type	RADIAL VIBRATION PROBE
Material*	N/A
Construction*	N/A
Dimensions*	0.5 m (LENGTH)
Rating*	N/A
Mounting*	N/A
Option, connection	MINIATURE CLICKLOC COAXIAL CONNECTOR
Agency approval	MULTIPLE APPROVALS
Calibration certificate	L12
Manufacturer	BENTLY NEVADA
Manufacturer Part Number	330105-02-12-05-02-05



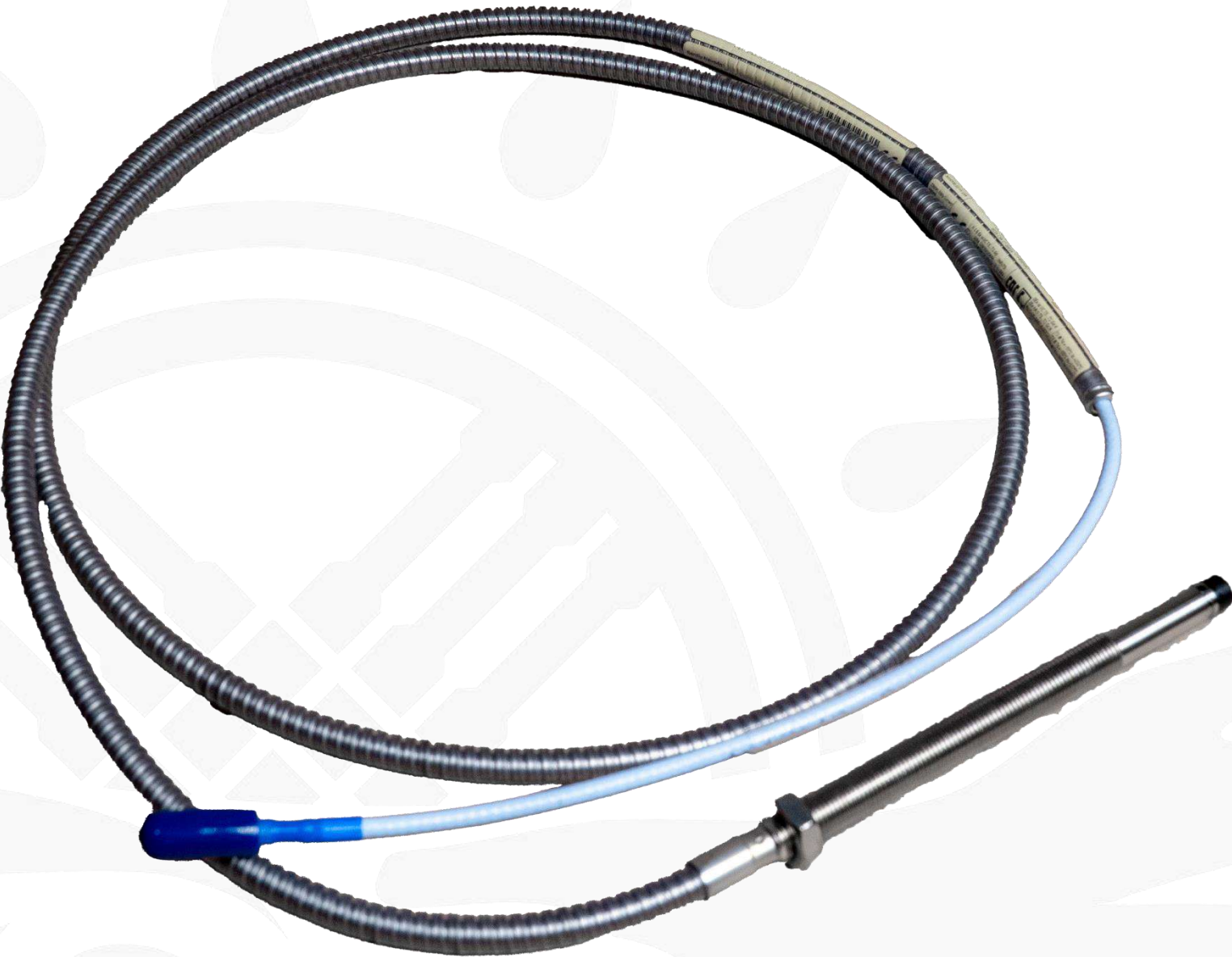
367

Instrumentation Parts

Part name*	EXTENSION CABLE
Dimensions	8 mm
Equipment name*	TBA
Equipment model number*	TBA
Equipment serial number*	TBA
Manufacturer	BENTLY NEVADA
Manufacturer Part Number	330130-080-00-05



368	Instrument_systems
Type	PROXIMITY PROBE
Material*	N/A
Construction*	N/A
Dimensions*	1.5 m (TOTAL LENGTH) 4.9 ft (TOTAL LENGTH)
Rating*	N/A
Mounting*	N/A
Length, unthreaded	1.0 in
Length, overall case	4.7 in
Type, connector	MINIATURE COAXIAL CLICKLOC, STANDARD CABLE
Agency approval	MULTIPLE APPROVALS
With armor	
Old Part Number	330102-10-47-15-02-05
Manufacturer	BENTLY NEVADA
Manufacturer Part Number	330102-10-47-15-02-KZ



369

Instrumentation Parts

Part name*PROXIMITY PROBE

Equipment name*TBA

Equipment model number*TBA

Equipment serial number*TBA

ManufacturerBENTLY NEVADA

Manufacturer Part Number330902-00-30-05-02-05



370

Instrumentation Parts

Part name* DYNAMIC RADIAL GASKET

Equipment name* CONTROL VALVE

Equipment model number* TBA

Equipment size 1/4 x 12 in

Equipment ratings ANSI CL 150

Equipment serial number* TBA

Additional information:

Facing, flange RAISED FACE

Manufacturer DRESSER

Manufacturer Part Number 00-400088312779-0000



371

Instrument_systems

Type

PROBE, PROXIMITY

Material*

STAINLESS STEEL 304

Construction*

N/A

Dimensions*

0.5 m (TOTAL LENGTH)

9.5 in (CASE LENGTH)

Rating*

24 Vdc

Mounting*

N/A

Type, connector

MINIATURE COAXIAL CLICKLOC

Type, cable

STANDARD

Ambient temperature

0 TO +45 °C

Temperature, operating

-34 TO +177 °C

Temperature class

MULTIPLE VALUES

Size, thread

1/4 in - 28 UNF

Manufacturer

BENTLY NEVADA

Manufacturer Part Number

330902-00-95-05-02-05



372

Instrumentation Parts

Part name*FLAME ARRESTER

Equipment name*ANALYZER

Equipment model number*OXT4C

Equipment serial number*F-05003449

Drawing numberIB-106-340

Additional informationWITH CERAMIC DIFFUSER

ManufacturerEMERSON PROCESS MANAGEMENT

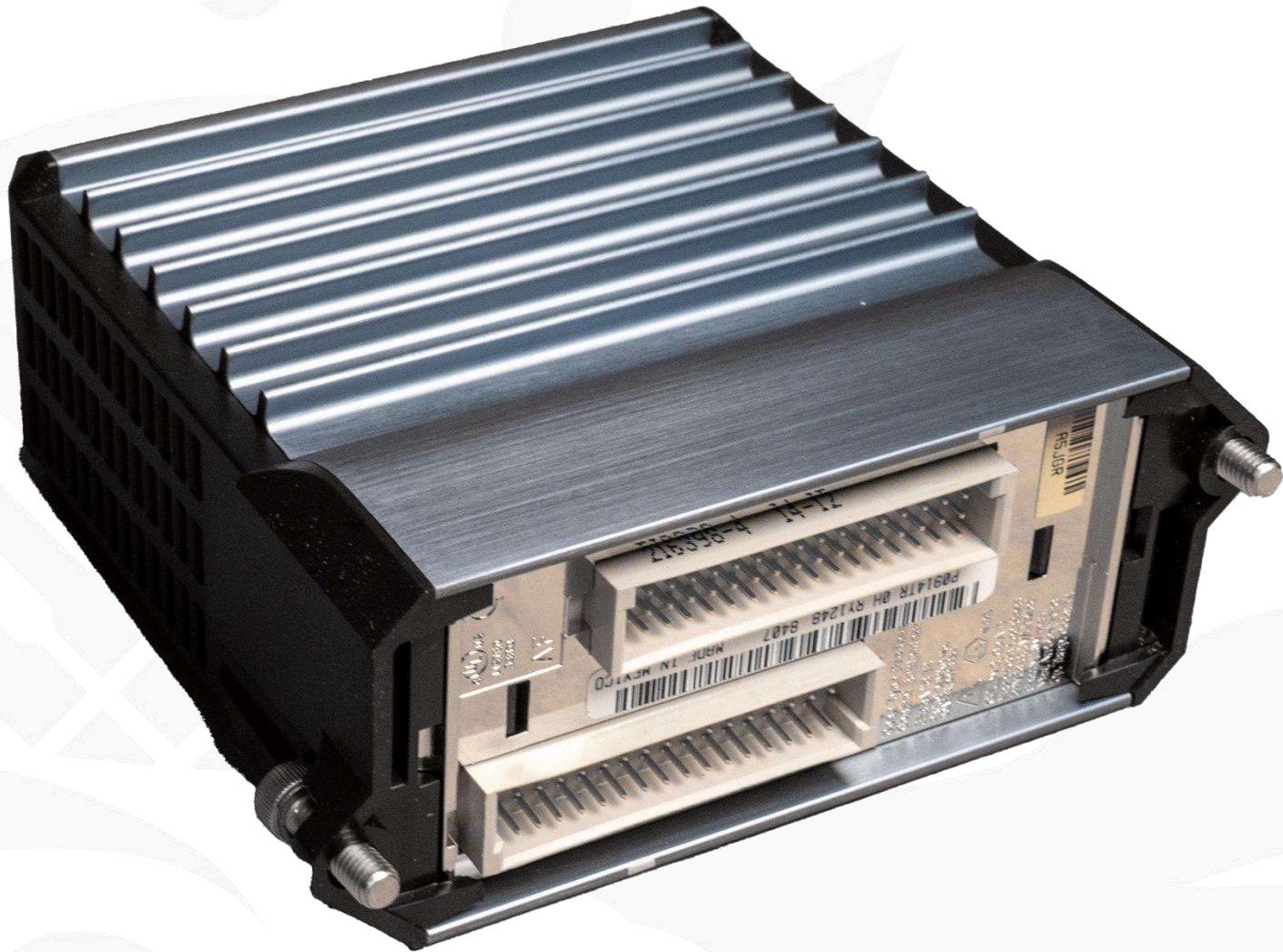
Manufacturer Part Number1U05677G01



373

Instrumentation Parts

Part name*	INPUT MODULE
Vendor name	INVENSYS PLC
Vendor part number	P0914TR
Equipment name*	DISTRIBUTION CONTROL SYSTEM
Equipment model number*	TBA
Equipment serial number*	TBA
Additional information	FBM217, DISCRETE INTERFACE
	15-60Vdc, 120Vac / 125 Vdc /
	240Vac, 32 CHANNEL
Manufacturer	SCHNEIDER ELECTRIC
Manufacturer Part Number	RH914TR



374	Temperature switches
	Ingress protection, enclosure IP 20
	Temperature range 0 TO +60 °C
	Series 7T/81
	Mounting RAIL
	Length 35 mm
	Number of Contacts 1
	Material, contact Ag-Ni
	Contact configuration NORMAL CLOSE
	Tension kind NO OPERATING VOLTAGE
	Nominal tension NO SUPPLY VOLTAGE
	Supervision function ADJUSTABLE TEMPERATURE
	Alternative Part Number 1T.91.0.000.2403
	Standard DIN EN 60715 TH35
	Manufacturer FINDER
	Manufacturer Part Number 7T.81.0.000.2403



375

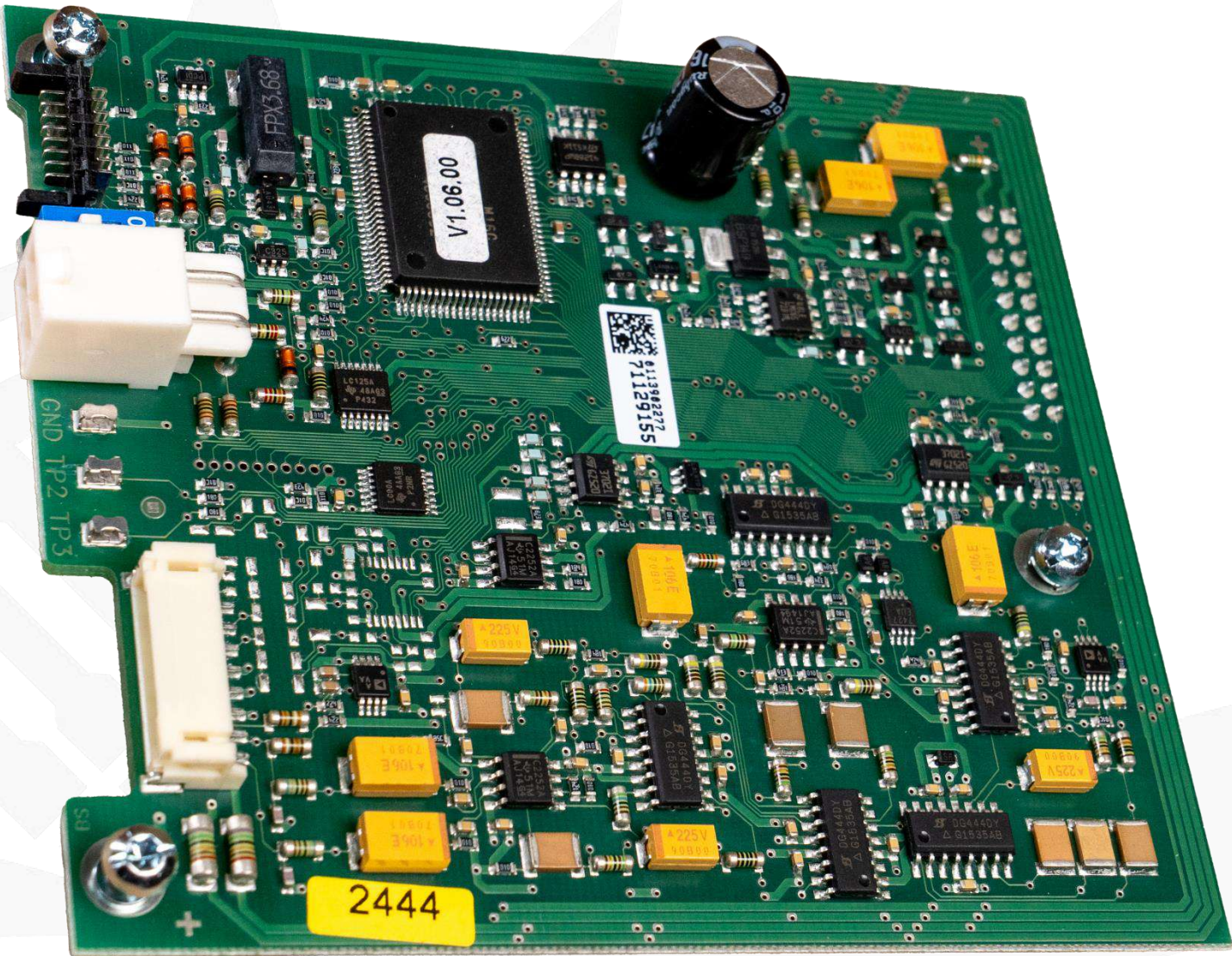
Instrumentation Parts
Part name* BATTERY
Equipment name* TBA
Equipment model number* TBA
Equipment serial number* TBA
Manufacturer ALLEN BRADLEY
Manufacturer Part Number 1756-BA1



376

Instrumentation Parts

Part name*	MEASURING AMPLIFIER KIT
Equipment name*	TBA
Equipment model number*	TBA
Equipment serial number*	TBA
Additional information	PW72 Ex
Manufacturer	ENDRESS + HAUSER
Manufacturer Part Number	50103475



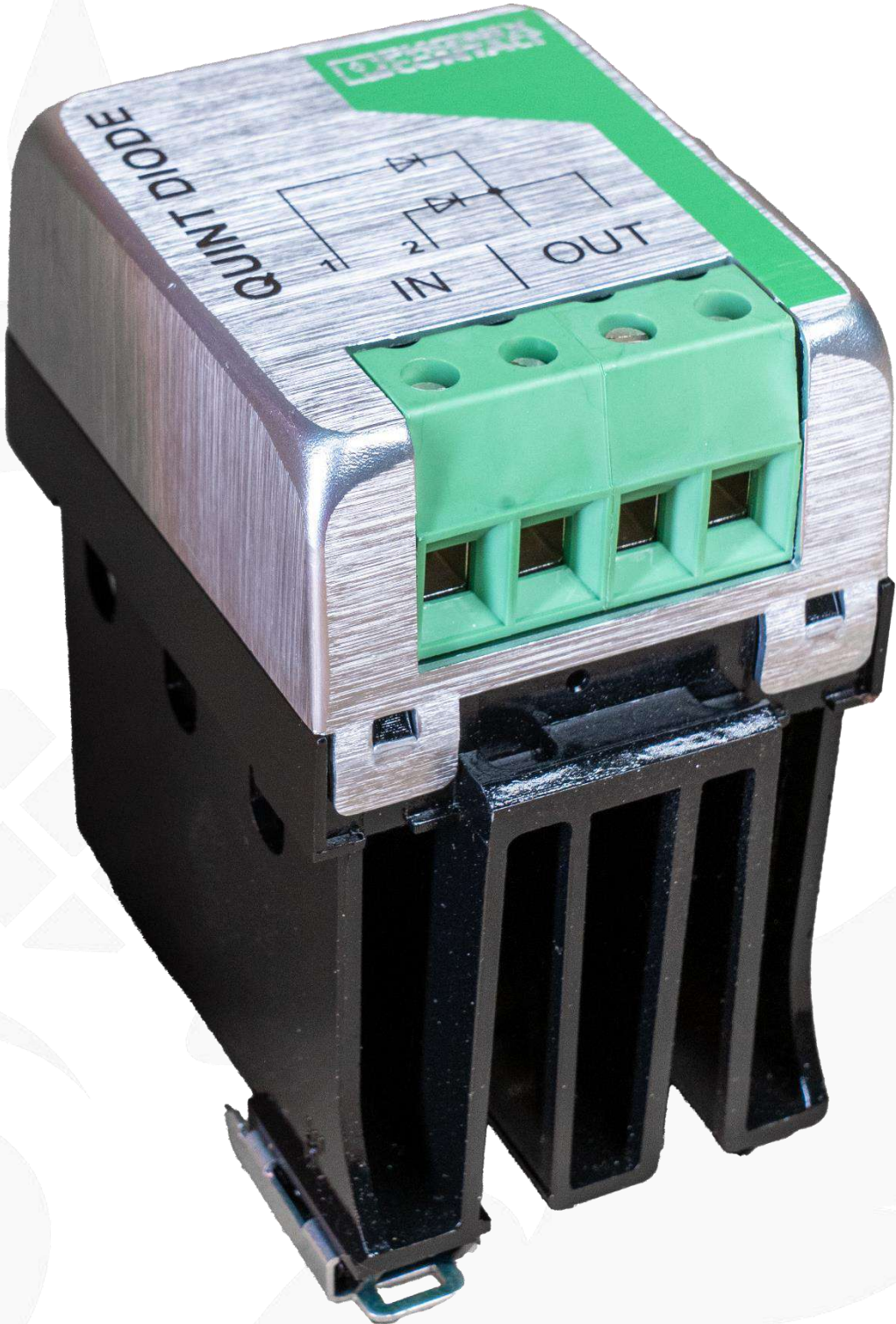
377	Vibration_Monitoring
Power supply*	-24 +/- 0.5 Vdc
Signal, input*	TBA
Frequency response*	TBA
Impedance, input*	TBA
Impedance, output*	TBA
Sensitivity	10.2 mV/m/s ²
Range, full-scale*	490 m/s ²
Type	ACCELEROMETER
Type, connector	3-PIN
Mat, connector	STAINLESS STEEL 316L
Mat, case	STAINLESS STEEL 316L
Dimension	0.93 x HGT 2.3 in
Thread	1/4 - 28 UNF INTEGRAL STUD
Torque, mounting	4.1 N.m
Temp range, Oper	-55 TO +121 °C
	-67 TO +250 °F
Ingress protection	IP68
Sensitivity	10.2 mV/m/s ² AT 100 mV/g
Acceleration range	490 m/s ²
Amplitude linearity	+/- 1% AT 490 m/s ²
freq response	10 Hz TO 15 kHz
Temp sensitivity	-11 TO +3%
Transverse sensitivity	> 5% OF AXIAL
Mounted resonant freq	> 30 kHz
Approval	CSA, ATEX, IECEx
Old part number	330400-01-KZ
Manufacturer	BENTLY NEVADA
Manufacturer Part Number	330400-01-KZ



378	Instrument_systems
Type	ACCELEROMETER ACCELERATION TRANSDUCER
Material*	STAINLESS STEEL
Dimensions*	TBA
Rating*	24 Vdc
Mounting*	TBA
Characteristic	LINEAR
Accuracy	+/- 1%
Sensitivity	100 mV/g
Linearity	+/- 1%
Max, operating limits	490 m/s ²
Element type	PIEZO CRYSTAL
Element connection size/type	3 PIN MIL-C-5015
Mat spec, case	1.4541
Ingress protection	IP66
Classification, hazard area	ZONE 1, EEX IA IIC T4
Manufacturer	BENTLY NEVADA
Manufacturer Part Number	330400-01-05



379	Instrument_systems
Type	REDUNDANCY MODULE
Material*	TBA
Construction*	TBA
Dimensions*	WD 62 x HGT 84 x DP 102 mm
Rating*	24 Vdc (INPUT)
Mounting*	DIN RAIL
Model	QUINT-DIODE/40
Ingress protection	IP20
Ambient temperature (operation)	-25 TO +70 °C
Ambient temperature (storage)	-40 TO +85 °C
Permissible relative humidity (operation), max	≤ 95 % (AT 25 °C, NON-CONDENSING)
Input voltage range	0 TO 30 Vdc
Nominal input current IN	2x 20 A (MAX 30 A) 1x 40 A (MAX 60 A)
Current, max (Imax)	2x 19 A (6 mm ² AT 40°C) 1x 39 A (6 mm ² AT 40°C) 2x 16 A (6 mm ² AT 60°C) 1x 32 A (6 mm ² AT 60°C) 2x 27 A (10 mm ² AT 40°C) 1x 54 A (10 mm ² AT 40°C) 2x 21 A (10 mm ² AT 60°C) 1x 43 A (10 mm ² AT 60°C) 2x 30 A (16 mm ² AT 40°C) 1x 60 A (16 mm ² AT 40°C) 2x 24 A (16 mm ² AT 60°C) 1x 48 A (16 mm ² AT 60°C)
Output current	40 A
Power loss nominal load, max	20 W
Net weight	0.7 kg
Efficiency	> 97 %
Insulation voltage	
input/output	1 kV
Protection class	II (IN CLOSED CONTROL CABINET)



Position, mounting	HORIZONTAL AND VERTICAL DIN RAIL NS 35, EN 60715
Assembly instructions can be aligned:	
Horizontal	2 cm
vertical	5 cm
Electromagnetic compatibility	CONFORMANCE WITH EMC DIRECTIVE 2004/108/EC
Noise emission	EN 55011
Declaration of conformity in according with EN 60079-15 II 3 G Ex nA II T4 X	
Classification, hazard areas	ATEX II 3 G Ex nA II T4
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Shipbuilding approval	GERMANISCHER LLOYD (EMC 2), ABS, DNV
Standard – electronic equipment for use in electrical power installations and their assembly into electrical power installations EN 50178/VDE 0160 (PELV)	
UL approvals	UL/C-UL LISTED UL 508
	UL/C-UL RECOGNIZED UL 60950
	UL/C-UL LISTED UL 1604
	CLASS I, DIVISION 2, GROUP A,B,C,D
Type, connection	SCREW
Conductor cross section	
solid,l min	0.5 mm ²
Conductor cross section	
solid, max	16 mm ²
Conductor cross section	
stranded, min	0.5 mm ²
Conductor cross section	
stranded, max	10 mm ²
Conductor cross section	
AWG/kcmil, min	20
Conductor cross section	
AWG/kcmil, max	6
Length, stripping	10 mm
Size, screw thread	M4

	Equipment manufacturerGE, Bently Nevada LLC Equipment part number2938963 ManufacturerPHOENIX CONTACT Manufacturer Part Number2938963	
380	Fittings - Piping: Tubing and Hoses TypeEQUAL TEE MaterialSTEEL Mat, specASTM A179 Pressure designation6000 psi End preparationN/A Schedule numberN/A Thickness, wallN/A Size1/2 in Type of thread*NPT FEMALE ManufacturerPARKER HANNIFIN Manufacturer Part Number1/2MMO-S	

HSSE		
381	Fire and smoke detectors Mat, housingABS / PLASTIC Connection, electricalTBA Ingress protectionIP44 MountingBASE Power supply17 TO 24 Vdc Time, responseTBA Model numberDO1101A-Ex Operating current100 µA ColorWHITE Color codeRAL9010 Relative humidity</=95% Temperature range-25 TO +60 °C Classification, hazard areasII 2 G Ex ib IIC T4 ManufacturerSIEMENS BUILDING (CERBERUS) Manufacturer Part NumberBPZ:5008010001	

Eyewash equipment, safety
Type EYEWASH
Form of supply BOTTLE OF 500 ml
Application REFILLING PLUM EYEWASH
STATIONS OR USE ALONE
0.9% Sterile sodium chloride solution
Manufacturer PLUM
Manufacturer Part Number 4604



General Spare Parts

Part name* MAIN VALVE SEAT
Material GUNMETAL
Equipment name* FIRE FIGHTING HYDRANT
Equipment model number* TBA
Equipment serial number TBA
Additional information:
Mat spec BS1400 LG2
 UNI7013
Weight 2.6 kg
Manufacturer SILVANI ANTINCENDI
Manufacturer Part Number 5745021690



384

General Spare Parts

Part name*GASKET

DimensionsDN 100 (4 in)

Equipment name*FIRE FIGHTING HYDRANT

Equipment model number*TBA

Equipment serial numberTBA

Additional informationFOR GOST GAS CONNECTION

Quantity10 PIECE

ManufacturerSILVANI ANTINCENDI

Manufacturer Part Number209A



CONTROL AUTOMATION

385

Valves
Type* POPPET CHECK
Nominal size* 12 mm
Pressure rating* 0.07 bar
1 psig
Type, connections* TUBE AND FITTING
Mat, body* STAINLESS STEEL 316
Manufacturer SWAGELOK
Manufacturer Part Number SS-12C-MM-1



386

Valves	
Type*	POPPET CHECK
Nominal size*	1/2 in
Pressure rating*	6000 psig
Type, connections*	TUBE AND FITTING
Mat, body*	STAINLESS STEEL 316
Mat, seal	FLUOROCARBON FKM
Mat, back-up ring	PTFE
Cracking pressure	1 psi
Size, end connection 1	12 mm
Size, end connection 2	12 mm
Former manufacturer	CRAWFORD FITTINGS
Manufacturer	SWAGELOK
Manufacturer Part Number	SS-CHS12MM-1



387	Solenoid valve
Model	FP06P
Type	3 WAY, 2 POSITION
Mat, body	AISI 316
Mat, seats	FLUOROSILICONE
Mat, disc(s)	TBA
Mat, gasket(s)	TBA
Size, orifice	TBA
Connection, air	1/4 in NPT
Connection, electrical	TBA
Power supply	24 Vdc
Power consumption	5.7 W
Type, coil	TBA
Classification, hazard areas	Eex d GOST IIC T6
Valve position	NORMALLY UNIVERSAL
Equipment manufacturer name	WOZAIR LIMITED
Equipment part number	8104142
Manufacturer	BIFOLD FLUIDPOWER
Manufacturer Part Number	FP06PS1-04-32-NU-AL-77G9-24D-57-01(316)



388	Valve actuators	
	Type, operating	SPRING RETURN ELECTRICAL
	Size, valve	SMALL
	Voltage rating	24 TO 230 V (AC/DC)
	Torque	5 TO 10 N.m
	With 2 integral potential free auxiliary switches	
	Manufacturer	SCHISCHEK
	Manufacturer Part Number	INMAX-5.10-SF



389	Safety barriers
Type	SMART TRANSMITTER POWER SUPPLY
Material	TBA
Length	TBA
Diameter	TBA
Color	TBA
Type, signal	ANALOG INPUT
Number of channel	2
Power supply	24 Vdc
Safety integrity level	SIL 2
Supply:	
Connection	POWER RAIL / TERMINAL 14+, 15-
Rated voltage	20 TO 35 Vdc
Ripple	WITHIN THE SUPPLY TOLERANCE
Power dissipation	1.8 W
Power consumption, max	2.7 W
Input:	
Connection side	FIELD SIDE
Connection	TERMINAL 1+, 3-, 4+, 6-
Input signal	0/4 TO 20 mA
Available voltage, input	>/= 16 V AT 20 mA, TERMINAL 1+, 3
Output:	
Connection	CONTROL SIDE
Connection	TERMINAL 7+, 8-, 10-, 11+
Load	0 TO 550 ohm AT 20 mA
Output signal	0/4 TO 20 mA
Ripple, max	50 µA
Transfer characteristics:	
Frequency range	0 TO 7.5 kHz
Settling time	200 µs
Rise time/fall time	20 µs
Indicators / settings:	
Display element	LED
Labeling	SPACE FOR LABELING AT THE FRONT
Conformity:	
Electromagnetic compatibility	NE 21:2004
Degree of protection	IEC 60529:2001



Ambient conditions: Temperature range, ambient -20 TO +60 °C -4 TO +140 °F	
Mechanical specifications:	
Ingress protection	IP20
Connection	SCREW TERMINAL
Mass, approx.	150 g
Dimensions	20 x 124 x 115 mm 0.8 x 4.9 x 4.5 in
Type, housing	B2
Type, mounting	DIN RAIL
Size, mounting	35 mm
Standard	EN 60715:2001
Data for application in connection with hazardous areas:	
Classification hazardous area BAS 99 ATEX 7025 X	
Ex II (1)G [Ex ia Ga] IIC	
Ex II (1)D [Ex ia Da] IIIC	
Ex I (M1) (Ex ia Ma) I	
TUV 99 ATEX 1499 X	
Ex II 3G Ex nA II T4	
Manufacturer	PEPPERL+FUCHS
Manufacturer Part Number	KFD2-STC4-EX2