



FARMA®

Grapple

Link

Rotator

Insert bucket

EN_S2.0-2019W25

Original instruction

SPARE PARTS



SPARE PARTS

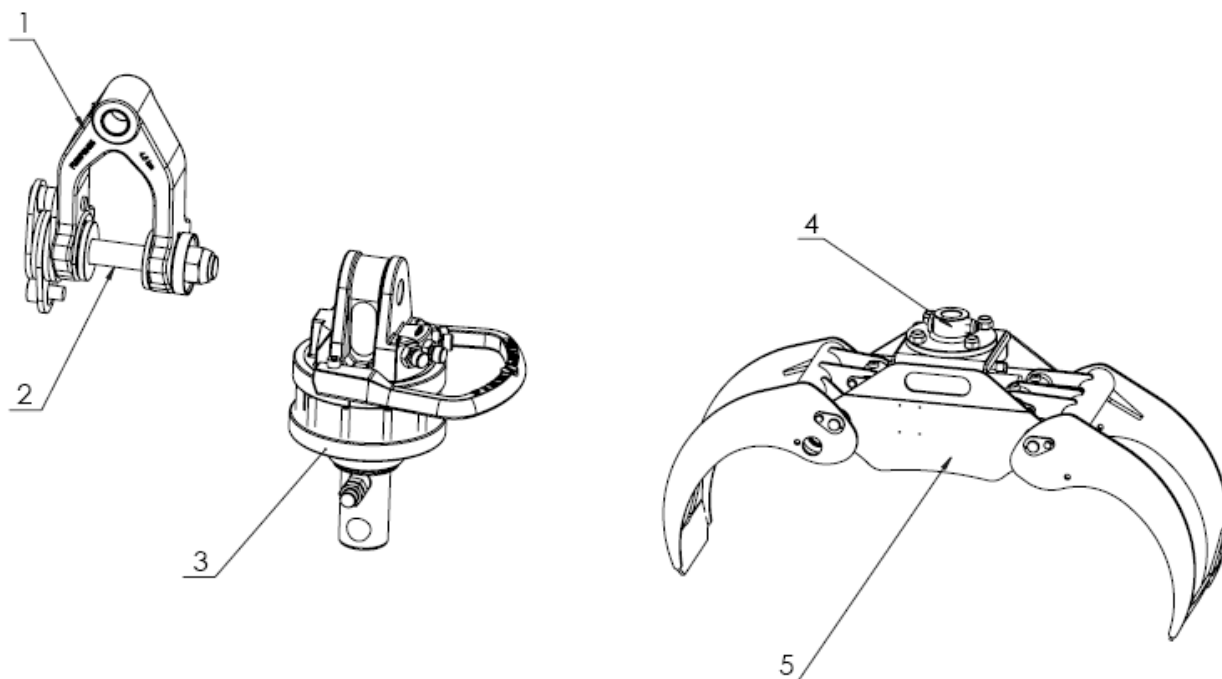
LINK/ROTATOR/GRAPPLE/ INSERT BUCKET

TABLE OF CONTENTS

1	SPARE PARTS	2
1.1	MAIN PARTS GRAPPLE ASM	2
1.2	LINK L50	3
1.3	ROTATOR LINK L60 WITH SINGLE BREAK ASM	4
1.4	ROTATOR	5
1.5	GRAPPLE 0.12 G2.1	6
1.6	GRAPPLE 0.16 G2.1	7
1.7	GRAPPLE 0.20 G2.1	8
1.8	GRAPPLE 0.24 G2	10
1.9	HYDRAULIC SCHEME FARMA GRAPPLE	12
1.10	INSERT BUCKETS G2.1	13
2	TECHNICAL SPECIFICATION	14
2.1	MEASUREMENTS & TECHNICAL DATA	14
2.2	LUBRICATION POINTS	15

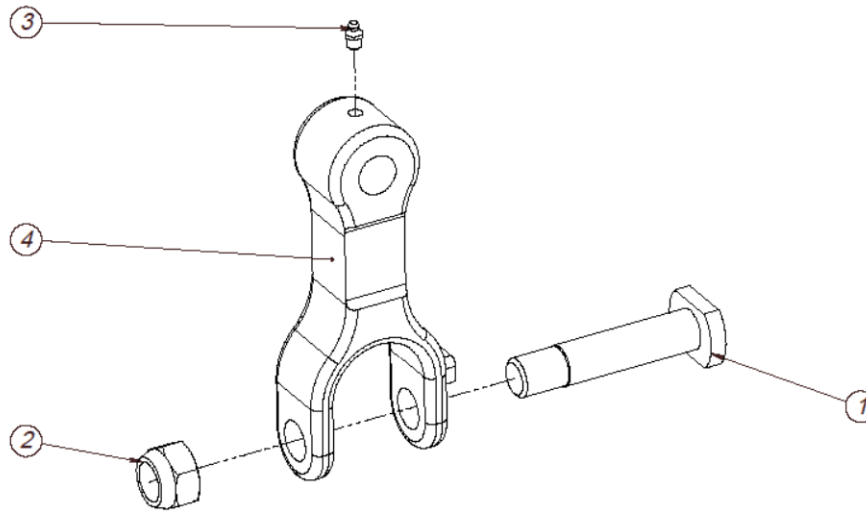
1 SPARE PARTS

1.1 MAIN PARTS GRAPPLE ASM



REF: 190527

- 2. Link shaft
- 3. Rotator
- 4. Grapple flange
- 5. Grapple

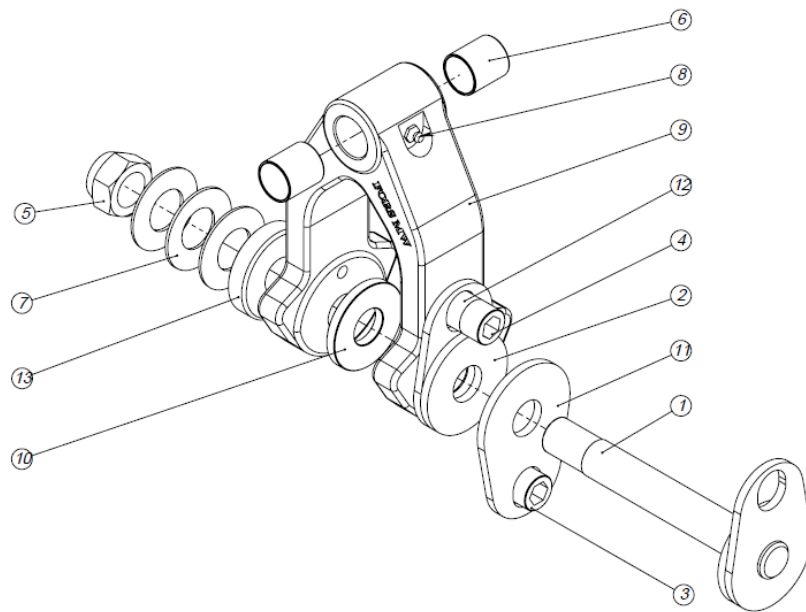
1.2 LINK L50 ASM

REF: 131125

Suitable for cranes C3,5–C5,1

ROTATOR LINK L50 ASM (FMWA00178)

ITEM NO.	PART NUMBER	DESCRIPTION	TYPE	QTY.
1	FMWS00254	Fork bolt	Grnd25-128(118) M24	1
2	907252	Nut Hex. Nylock	M24 fzb DIN 985	1
3	930105	Grease nipple	1/8" DIN 71412	1
4	FMWP03061	Link 50	50x90x230	1

REF: 190618

Original instruction
1.3 ROTATOR LINK L60 WITH SINGLE BRAKE ASM

REF: 140103

Suitable for Cranes C5,3– C8,5

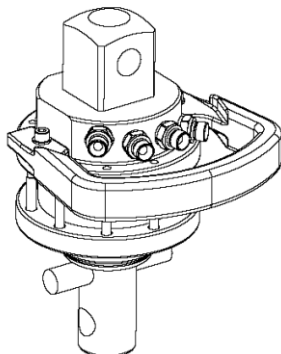
ROTATOR LINK L60 ASM WITH SINGLE BRAKE (FMWA00064)

ITEM NO.	PART NUMBER	DESCRIPTION	TYPE	QTY.
1	FMWS00351	Shaft	-	1
2	FMWS00352	Plate	-	1
3	906532	Bolt Hex. Socket	M16x20 DIN 912	1
4	906541	Bolt Hex. Socket	M16x40 DIN 912	1
5	907242	Nut Hex. Nylock	M24x1,5 fzb DIN 985	1
6	909135	Slide bearing	25 28 30 P	2
7	920503	Disk spring	56x28,5x2 DIN 2093	3
8	930105	Grease nipple	1/8" DIN 71412	1
9	FMWP00495	Rotator link L60	-	1
10	FMWP00814	Washer	RndØ60 - 7	2
11	FMWP01589	Plate	PLT6 - 110x75	1
12	FMWP01590	Bush	STØ25x3,5 - 14	1
13	FMWP01591	Lock washer	-	1

REF: 140103

Original instruction

1.4 ROTATOR

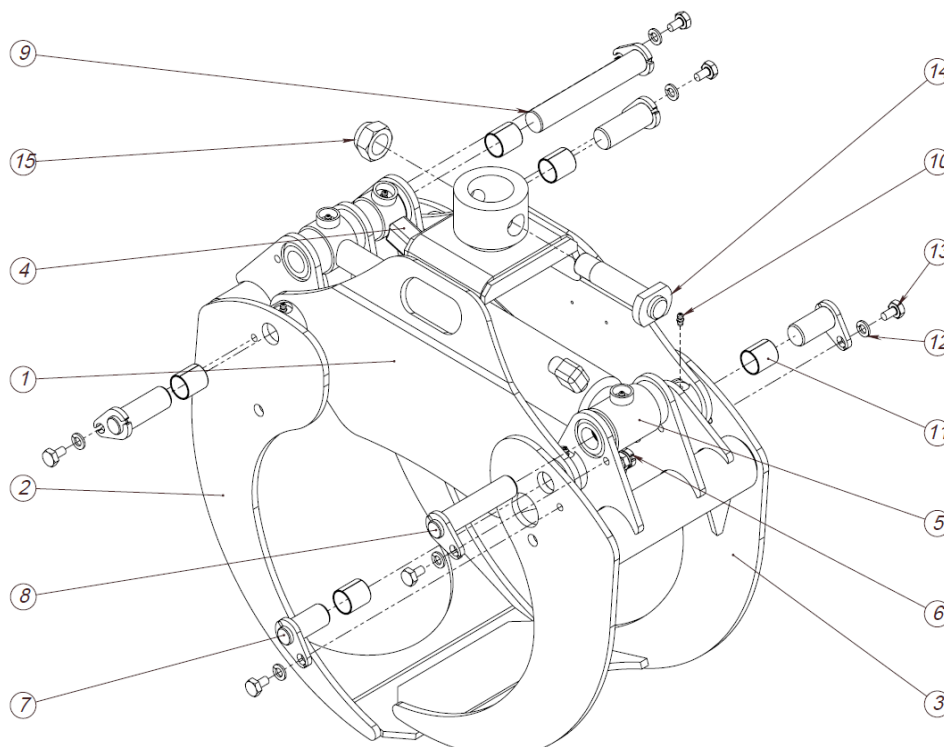


ROTATOR

PART NUMBER	DESCRIPTION
100080	Rotator, complete, 3 tonnes
3700704	Seal kit, rotator, 3 tonnes
100081	Rotator, complete, 4 tonnes
3700714	Seal kit, rotator, 4 tonnes

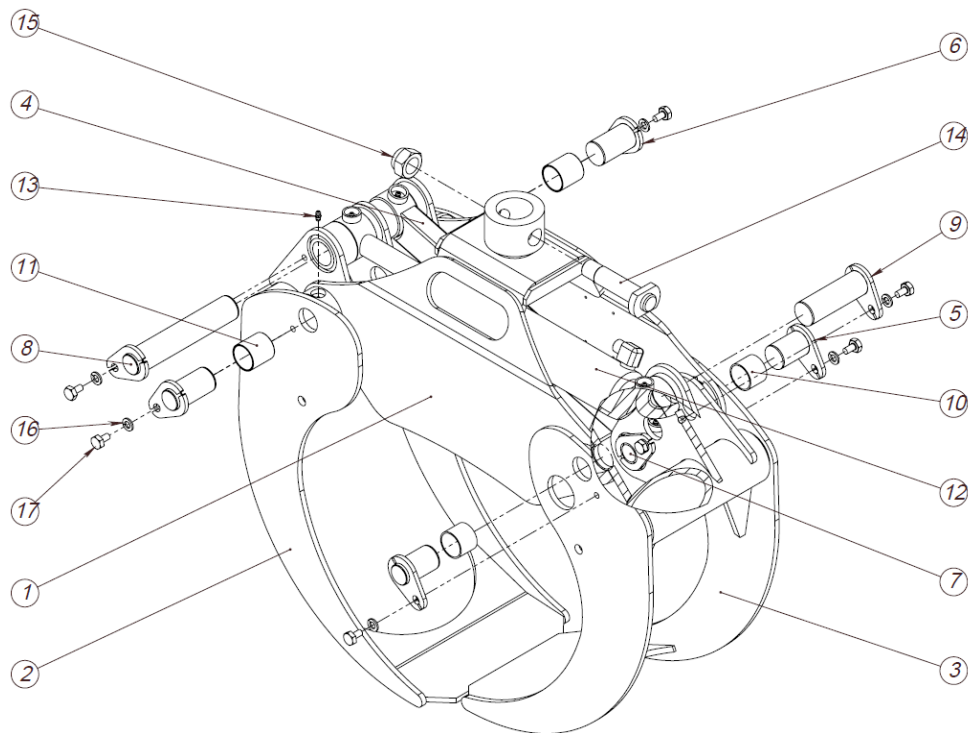
REF: 150212

Original instruction

1.5 GRAPPLE 0.12 G2.1

REF: 150212
GRAPPLE 0.12 G2.1, FMWA00316

ITEM NO.	PART NUMBER	DESCRIPTION	TYPE	QTY.
1	FMWS00506	Yoke 0,12		1
2	FMWS00805	Jaw outer grapple 0,12 G2.1		1
3	FMWS00807	Jaw inner grapple 0,12 G2.1		1
4	FMWS00809	Parallel link 0,12 G2.1		1
5	313120	Hydraulic cylinder	60/30 - 182	1
6	FMWS00510-01	Shaft GrndØ25	GrndØ25 - 77(66)	3
7	FMWS00510	Shaft GrndØ25	GrndØ25 -59(48)	2
8	FMWS00510-03	Shaft GrndØ25	GrndØ25 -115(104)	1
9	FMWS00810	Shaft compl.	GRNDØ25-170(159)	1
10	930107	Grease nipple	M6 DIN 71412	6
11	909135	Slide Bearing	25-28-30 P DIN 1494	6
12	908620	Washer Spring	M10 fzb DIN 127	7
13	906287	Bolt Hex. Cap	M10x16 DIN 933	7
14	FMWS00253	Grapple bolt	GRND25-113(103)	1
15	907252	Nut Hex. Nylock	M24 DIN 985	1

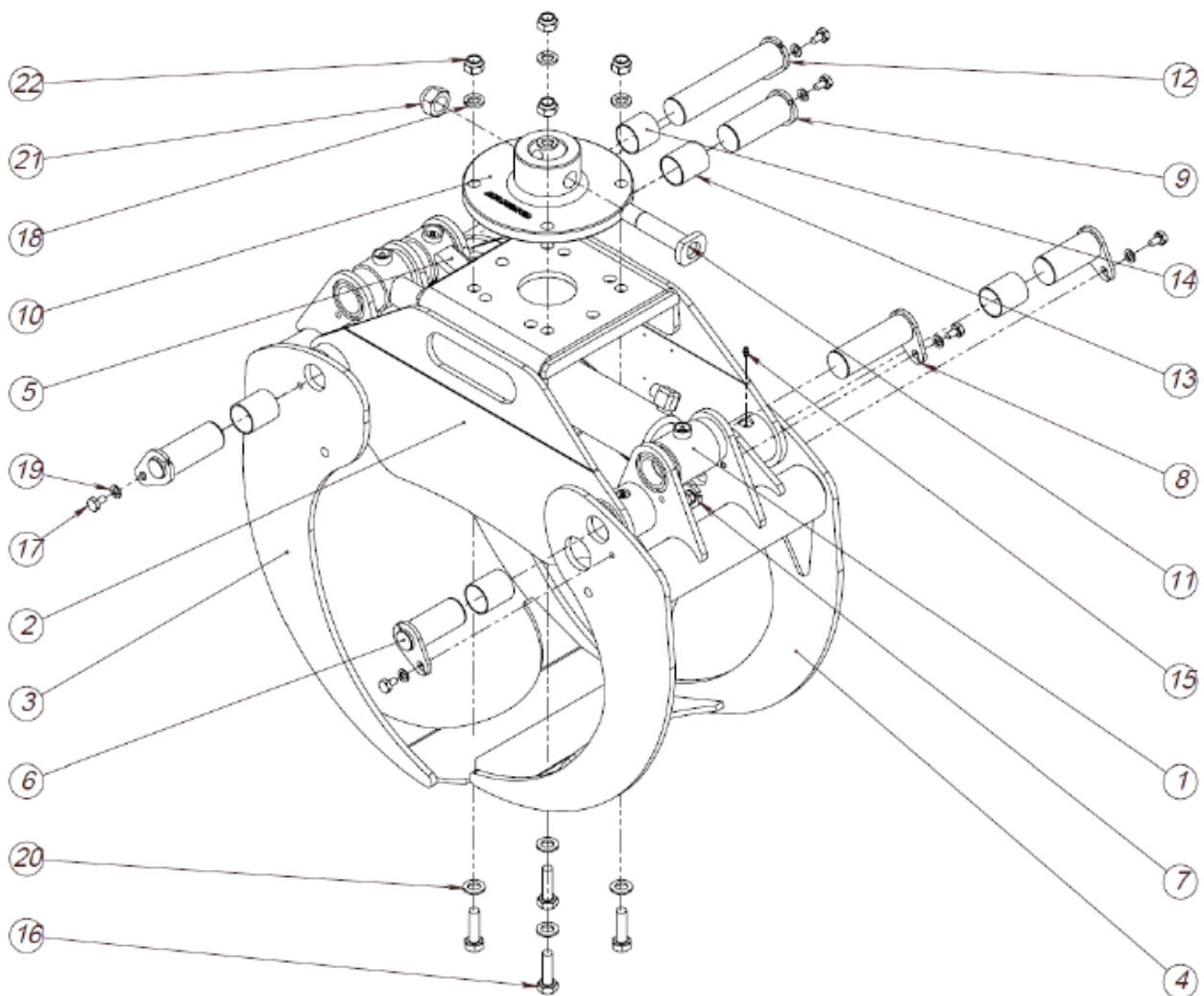
REF: 150212

1.6 GRAPPLE 0.16 G2.1

REF: 150212
FG 0.16 G2.1, FMWA00300

ITEM NO.	PART NUMBER	DESCRIPTION	TYPE	QTY.
1	FMWS00100	Yoke 0,16		1
2	FMWS00743	Jaw outer grapple 0,16 G2.1		1
3	FMWS00744	Jaw inner grapple 0,16 G2.1		1
4	FMWS00774	Parallel-link 0,16 G2.1	L=502	1
5	FMWS00104	Shaft	GrndØ35h9 - 60(49)	2
6	FMWS00104-01	Shaft	GrndØ35h9 - 71(60)	2
7	FMWS00105	Shaft	GrndØ35h9 - 82(76)	1
8	FMWS00773	Shaft compl.	Grnd35-188(178)	1
9	FMWS00106-01	Shaft	GrndØ35h9-109(103)	1
10	909145	Slide bearing	35 39 30 DIN 1494	4
11	909146	Slide bearing	35 39 40 DIN 1494	2
12	313109	Hydraulic cylinder	60/30 - 230	1
13	930107	Grease nipple	M6 DIN 71412	6
14	FMWS00253	Grapple bolt	GRND25-113(103)	1
15	907252	Nut Hex. Nylock	M24 DIN 985	1
16	908620	Washer Spring	M10 fzb DIN 127	7
17	906287	Bolt Hex. Cap	M10x16 DIN 933	7

REF: 150212

Original instruction

1.7 GRAPPLE 0.20 G2.1


FG 0.20

REF: 150212
FG 0.20 G2.1 FMWA00312

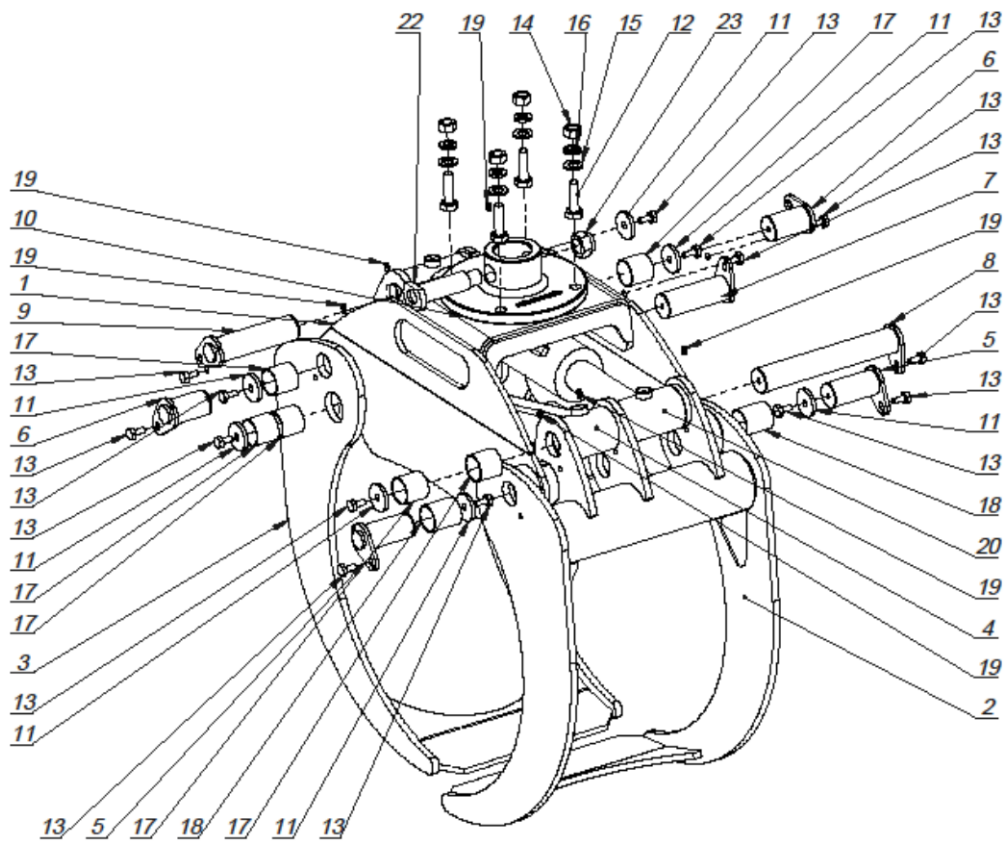
ITEM NO.	PART NUMBER	DESCRIPTION	TYPE	QTY.
1	313110	Hydraulic cylinder	70/40 - 245	1
2	FMWS00163	Yoke 0,20		1
3	FMWS00797	Jaw outer grapple 0,20 G2.1		1
4	FMWS00798	Jaw inner grapple 0,20 G2.1		1
5	FMWS00799	Parallel-link 0,20 G2.1	L=523,8	1
6	FMWS00115-01	Shaft	GrndØ40-99(88)	2
7	FMWS00116	Shaft	GrndØ40-83(72)	1
8	FMWS00815	Shaft	GrndØ40-135(124)	1
9	FMWS00168	Shaft	GrndØ40-112,5(101,5)	2
10	FMWP00483	Flange	D230 Hole ID49,5	1

Original instruction

11	FMWS00253-01	Grapple bolt	GRND25-125(115)	1
12	FMWS00804	Shaft	GRNDØ40 200(189)	1
13	909148	Slide bearing	40 44 50 DIN 1491	4
14	909149	Slide bearing	40 44 40 DIN1491	2
15	930107	Grease nipple	M6 DIN 71412	6
16	906228	Bolt Hex. Cap	M16x50 fzb DIN 933	4
17	906287	Bolt Hex. Cap	M10x16 DIN 933	7
18	908630	Washer Spring	M16 fzb DIN 127	4
19	908620	Washer Spring	M10 fzb DIN 127	7
20	908267	Washer flat	M16 fzb DIN 125	4
21	907252	Nut Hex. Nylock	M24 DIN 985	1
22	907237	Nut Hex. Nylock	M16 fzb DIN 985	4

REF: 150212

1.8 GRAPPLE 0.24 G2



FG 0.24

FG 0.24 G2, FMWA00226

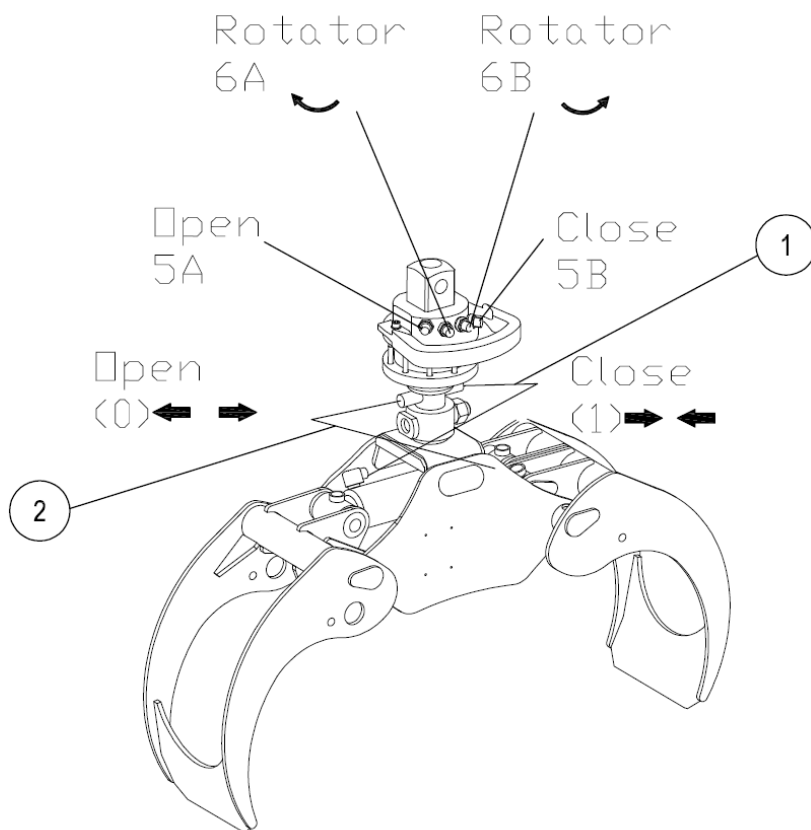
ITEM NO.	PART NUMBER	DESCRIPTION	TYPE	QTY.
1	FMWS00655	Yoke	0,24 G2	1
2	FMWS00656	Jaw outer grapple	0,24 G2	1
3	FMWS00658	Jaw inner grapple	0,24 G2	1
4	FMWS00661	Parallel-link	0,24 G2	1
5	FMWS00674	Shaft	GrndØ40-95(84)	2
6	FMWS00675	Shaft	GrndØ40-77(66)	2
7	FMWS00676	Shaft	GrndØ40-125(114)	1
8	FMWS00677	Shaft	GrndØ40-261(250)	1
9	FMWS00678	Shaft	GrndØ40-157(146)	1
10	FMWP00483-01	Flange	D230 Hole ID59	1
11	FMWP03768	Washer	PLT6-45x45	7

Original instruction

12	906228	Bolt Hex. Cap	M16x50 fzb DIN 933	4
13	906170	Bolt Hex. Cap	M10x20 fzb DIN 933	14
14	907237	Nut Hex. Nyloc	M16 fzb DIN 985	4
15	908267	Washer flat	M16 fzb DIN 125	4
16	908630	Washer Spring	M16 fzb DIN 127	4
17	909149	Slide bearing	40 44 40 DIN1491	6
18	909148	Slide bearing	40 44 50 DIN 1491	2
19	930107	Grease nipple	M6 DIN 71412	6
20	313169	Hydraulic cylinder	80/50 x240	1
21	37313169	Sealing kit 80/50		1
22	FMWS00253-02	Grapple bolt	GRND30-125(115)	1
23	907252	Nut Nyloc	M24 fzb DIN 985	1

REF: 190517

1.9 HYDRAULIC SCHEME FARMA GRAPPLE



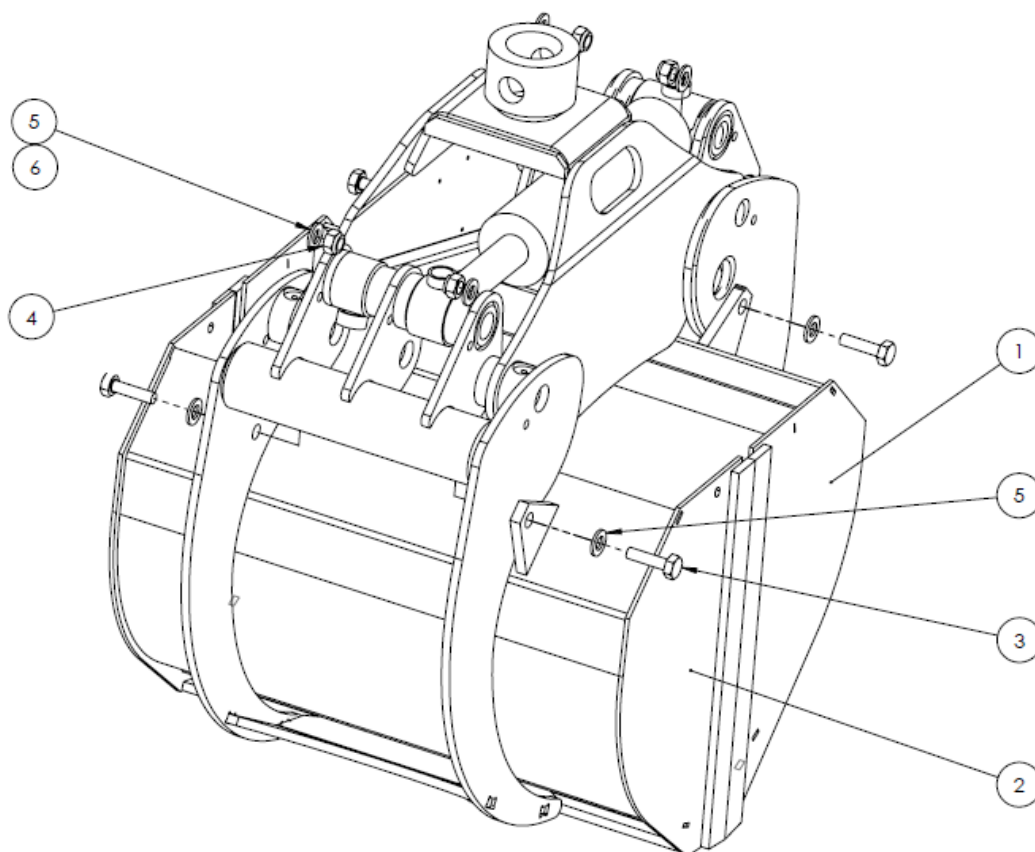
REF: 160530

HYDRAULIC SCHEME FMWH00021

POS. NO.	PART NO.	DESCRIPTION	TYPE	-01	-02	-03	-04
				FG 0.12 Qty.	FG 0.16 Qty.	FG 0.20 Qty.	FG 0.24 Qty.
1	FMWH00489	H-hose	42040604-1/4(420)-42010604	1	-	-	-
2	FMWH00490	H-hose	42040604-1/4(380)-42010604	1	-	-	-
1	FMWH00492	H-hose	42040606-3/8(370)-42040606	-	1	-	-
2	FMWH00491	H-hose	42040606-3/8(510)-42040606	-	1	-	-
1	FMWH00254	H-hose	42040606-3/8(570)-42010606	-	-	1	-
2	FMWH00253	H-hose	42040606-3/8(490)-42010606	-	-	1	-
1	FMWH00462	H-hose	42040606-3/8(580)-42010806	-	-	-	1
2	FMWH00463	H-hose	42040606-3/8(500)-42010806	-	-	-	1

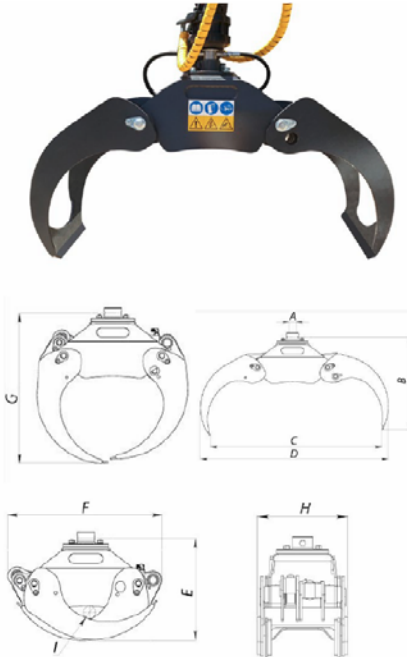
REF: 190517

Original instruction

1.10 INSERT BUCKETS G2.1

Ref: 190517
INSERT BUCKETS G2.1

POS. NO.	PART NO.	DESCRIPTION	TYPE	QTY. 0,12 G2.1	QTY. 0,16 G2.1	QTY. 0,20 G2.1
1	FMWS00587-01	Semi-bucket Inner 0,12 G2.1	For inner jaw	1	-	-
1	FMWS00300-01	Semi-bucket Inner 0,16 G2.1	For inner jaw	-	1	-
1	FMWS00303-01	Semi-bucket Inner 0,20 G2.1	For inner jaw	-	-	1
2	FMWS00588	Semi-bucket outer 0,12 G2/G2.1	For outer jaw	1	-	-
2	FMWS00300-02	Semi-bucket outer 0,16 G2.1	For outer jaw	-	1	-
2	FMWS00302-01	Semi-bucket outer 0,20 G2.1	For outer jaw	-	-	1
3	906201	Bolt Hex. Cap	M12x40 DIN 933	4	4	4
4	907228	Nut Hex. Nylock	M12 fzb DIN 985	4	4	4

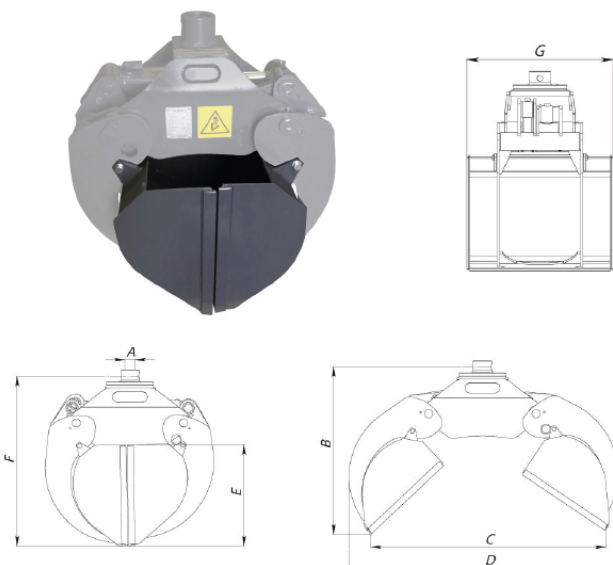
REF: 190517

2 TECHNICAL SPECIFICATION
2.1 MEASUREMENTS & TECHNICAL DATA
Grapple Generation G2.1


Measure	0,12 m ²	0,16 m ²	0,20 m ²	0,24 m ²
A	Diam. 50 mm	Diam. 50 mm	Diam. 50/60 mm	Diam. 50/60 mm
B	630 mm	715 mm	700 mm	815 mm
C	875 mm	1 045 mm	1 255 mm	1 275 mm
D	1 010 mm	1 225 mm	1 380 mm	1 470 mm
E	425 mm	510 mm	510 mm	530 mm
F	600 mm	715 mm	745 mm	785 mm
G	625 mm	730 mm	800 mm	860 mm
H	280 mm	280 mm	370 mm	395 mm
I	Diam. 55 mm	Diam 80. mm	Diam. 70 mm	Diam. 65 mm

Technical data	0,12 m ²	0,16 m ²	0,20 m ²	0,24 m ²
Weight	53 kg	70 kg	115 kg	145 kg
Working Pressure	17.5 MPa	17.5 MPa	17.5 MPa	21,0 Mpa
Gripping force arms tip-tip	6.3 kN	7.0 kN	8.25 kN	11.0 kN
Max.load	1000 kg	1000 kg	1500 kg	2000 kg
Size, rotator mount	50	50	<u>50/60*</u>	<u>50/60*</u>

*This model is supplied with a replaceable rotator mount. Specify the desired mount when ordering.
The underlined figure is the standard option.

REF: EN_1803
Insert buckets for the use together with Generation 2 grapples


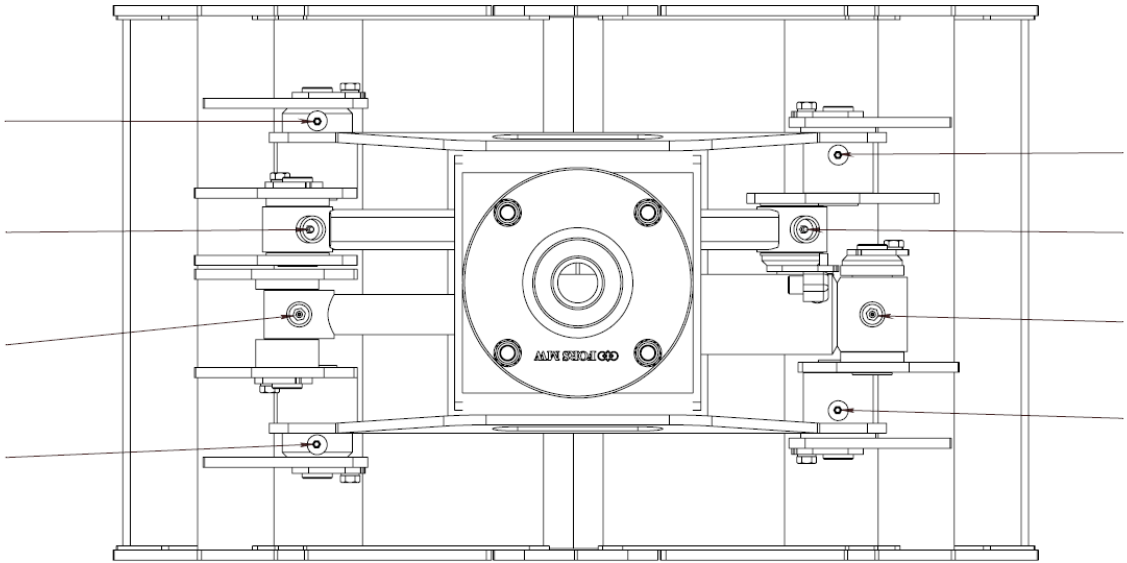
Measure	0,12 m ²	0,16 m ²	0,20 m ²
A	Diam. 50 mm	Diam. 50 mm	Diam. 50/60 mm
B	695 mm	750 mm	770 mm
C	795 mm	1045 mm	1280 mm
D	975 mm	1225 mm	1380 mm
E	390 mm	435 mm	490 mm
F	670 mm	765 mm	830 mm
G	525 mm	525 mm	625 mm

Technical data	0,12 m ²	0,16 m ²	0,20 m ²
Weight	35 kg	40 kg	50 kg
Working Pressure	17.5 MPa	17.5 MPa	19.0 MPa
Gripping force arms tip-tip	6.3 kN	6.8 kN	9.0 kN
Volume	58 l	80 l	110 l
Max.load	500 kg	500 kg	750 kg

REF: EN_1803

Original instruction

2.2 LUBRICATION POINTS



REF: 190517