

Manual Operators

Handle & Gear box

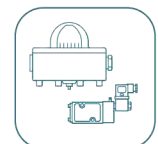
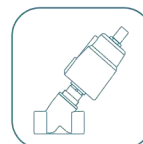
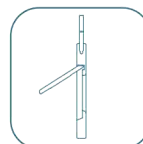
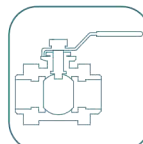
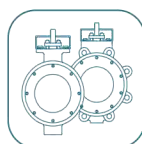
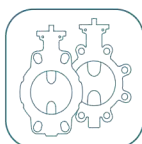
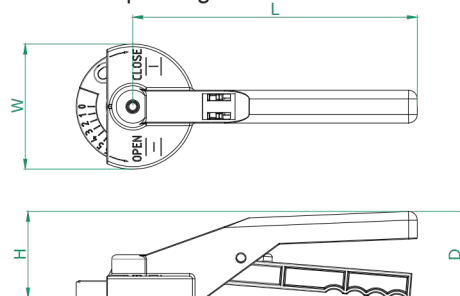


Fig.500 Aluminium hand lever

- Excellent design and comfortable operating 90° in 10 positions. The lever is fixed by screw on top of stem to avoid the lever getting loose by operation or vibrations. For safety, the hand lever can be locked in position by bolt/nut or a locker.
- Material is AL-Si alloy, which has better performance than Al-Mg and Al-Zn alloy.
- Electrophoresed surface treatment, which has stronger adhesion than traditional painting and much better resistance to corrosion.

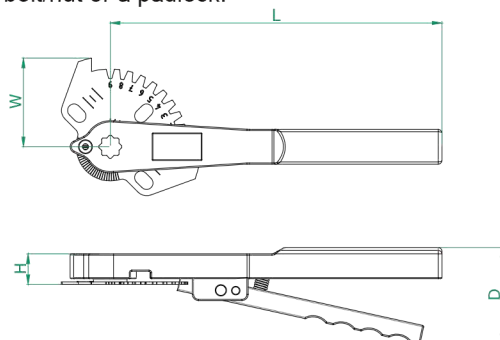


Size	D	H	L	W	Stem drive	[kg]
DN25-DN80	56	65	195	74	F05 - 9×9/11×11	0.28
DN100-DN125	78	82	269	101	F07 - 14×14	0.63
DN150	78	82	269	101	F07 - 17×17	0.63
DN200-DN250	101	100	330	145	F10 - 22×22	1.46

Notes: Above hand levers apply to Coreline Fig. 223/224; they can also be used on other butterfly valves.

Fig.503 GGG40 and CF8M hand lever

- GGG40 and CF8M hand lever have the same shape and share the same angle plate and locker.
- GGG40 hand lever has strong electrophoresed surface treatment. CF8M hand lever is with precise casting which has very smooth surface.
- Locker and plate in stainless steel SS316 and spring in SS321.
- Good design and comfortable operating 90° in 10 positions, but also adjustable screw to choose any position for regulation.
- The lever is fixed by screw on top of stem and not by side of stem, to avoid the lever getting loose by operation or vibrations. For safety, the hand lever can be locked in position by bolt/nut or a padlock.



Size	D	H	L	W	Stem drive	[kg]
DN40-DN80	53	23	195	60	F05 - 11×11	0.8
DN100-DN125	77	30	267	73	F07 - 14×14	1.2
DN150	77	30	267	73	F07 - 17×17	1.2

Notes: Above hand levers apply to Coreline Fig. 223/224; they can also be used on other butterfly valves.

Fig.520 Aluminium gear box

- Used as manual operation for 90° rotary valves, like butterfly valves, ball valves, etc.
- Housing in Aluminium alloy with good design and appearance, light in weight.
- Easy operation and high transmission efficiency with high output torque.
- ISO5211 standard mounting flange, with double-square and key connection both available for requirement.
- Standard protection class IP65 (Can customize higher protection class).
- Locking device is available on request.

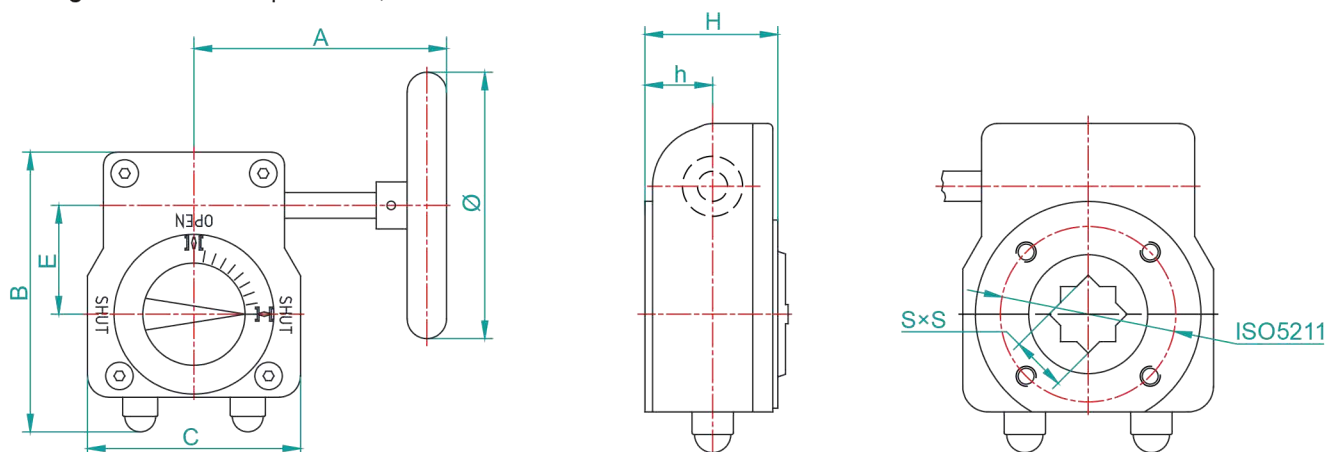
Specification

Housing: Aluminium alloy

Shaft: Carbon steel with electrophoretic surface treatment

Gear: Ductile iron

Coating: Standard C3. Optional C4, C5



Specification and dimension

Model	Output [N.m]	Ratio	Input [N.m]	A	B	C	E	h	H	Φ	S	Allowable ISO5211	WT [kg]
520-10	150	40 : 1	18.5	99	98	80	42.5	26	48	100, 120, 150	9, 11, 14	F05+F07	1.45
520-10S	150	40 : 1	13	115	114	80	40	24	49	125	9, 11, 14	F04+F07 F05+F07	1.3
520-10AS	250	40 : 1	25	178	114	80	40	26	52	200	9, 11, 14, 17	F05+F07	1.7
520-15	250	37 : 1	34	115	115	100	50	27	54	120, 200	9, 11, 14, 17	F07	1.9
520-15S	500	37 : 1	50	200	132	100	50	30	60	250	17, 22, 27	F07+F10	3.1
520-50	750	45 : 1	83	220	155	146	60	38	71	300	17, 22, 27	F10	5.2
520-50S	900	45 : 1	90	236	179	146	60	38	72	300	27, 36	F10+F12	3.5
520-120	1200	40 : 1	150	323	191	175	80	40	80	400	22, 27	F14	9.2
520-120S	1500	40 : 1	130	372	215	175	80	40	77	400	22, 27, 36	F10+F12 F10+F14	6.4

Notes:

1. Please specify the mounting flange and the required stem square before ordering.
2. Weights above are for reference only.

Fig.521 Cast iron, CF8M gear box

- Used as manual operation for 90° rotary valves, like butterfly valves, ball valves, etc.
- Housing material is available with cast iron or CF8M.
- Easy operation and high transmission efficiency with high output torque.
- ISO5211 standard mounting flange, with double-square and key connection both available for requirement.
- Standard protection class IP65 (Can customize higher protection class).
- Locking device is available on request.

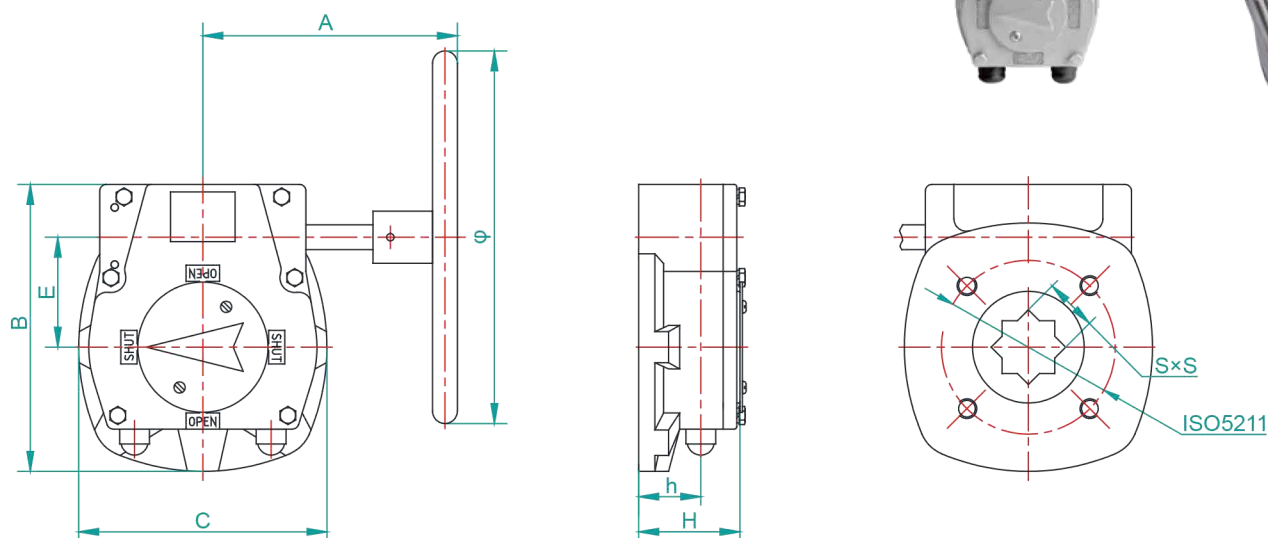
Specification

Housing: Cast iron, CF8M

Shaft: SS410, SS304, SS316

Gear: Ductile iron, Alu-bronze

Coating: Standard C3 and optional C4,C5 for CI gear box, original SS color



Specification and dimension

Model	Output [Nm]	Ratio	Input [Nm]	A	B	C	E	h	H	Φ	S	Allowable ISO5211	WT [kg]
521-MX07	160	32:1	23	109	97	67	35	22.5	43.5	140	14	F05+F07	2
521-M07	200	40 : 1	19	151	111	92	39	31	55	140	14	F05, F07	3.1
521-MX08	300	40:1	34	140	115	80	41	30	52.5	200	22	F07+F10	3
521-M10	500	42 : 1	45	214	145	118	53	35	61	260	22	F07, F10	6.2
521-MX10	650	42:1	70	212	151	105	56	34	59.5	260	27	F10+F12, F10+F14	5.5
521-M12	1000	42 : 1	90	210	182	165	66	42	72	300	27	F10, F12, F14	11
521-MX12	1200	42:1	125	242	184	134	70	38	68.5	300	27	F12+F16, F14	8
521-M14	1800	60 : 1	110	277	231	200	89	50	81	300, 400	27	F12, F14, F16	14
521-MX14	2000	60:1	150	287	221	210	92.5	45	77	400	36	F14, F16	14
521-M14A	2500	70 : 1	130	287	252	216	101	50	81	400	36	F14, F16	21
521-MX15	2800	70:1	185	302	252	210	105	98.5	66	500	36, 46	F12+F16, F14	19
521-M15	3400	68 : 1	165	357	296	252	123	50	91	400	36, 46	F14, F16	32
521-MX16	4000	88:1	200	325	330	300	130	98.5	56	500	46	F16+F25	33
521-M16	4400	88 : 1	169	382	354	315	153	50	93	500	46	F16, F25	44

Notes:

1. Please specify the mounting flange and the required stem square before ordering.
2. Weights above are for reference only.

Fig.521 Cast iron gear box

- Used as manual operation for 90° rotary valves like butterfly valves, etc.
- Housing in cast iron with good design and appearance.
- Easy operation and high transmission efficiency with high output torque.
- ISO5211 standard mounting flange, with double-square and key connection both available for requirement.
- Standard protection class IP65 (Can customize higher protection class).
- Locking device is available on request.



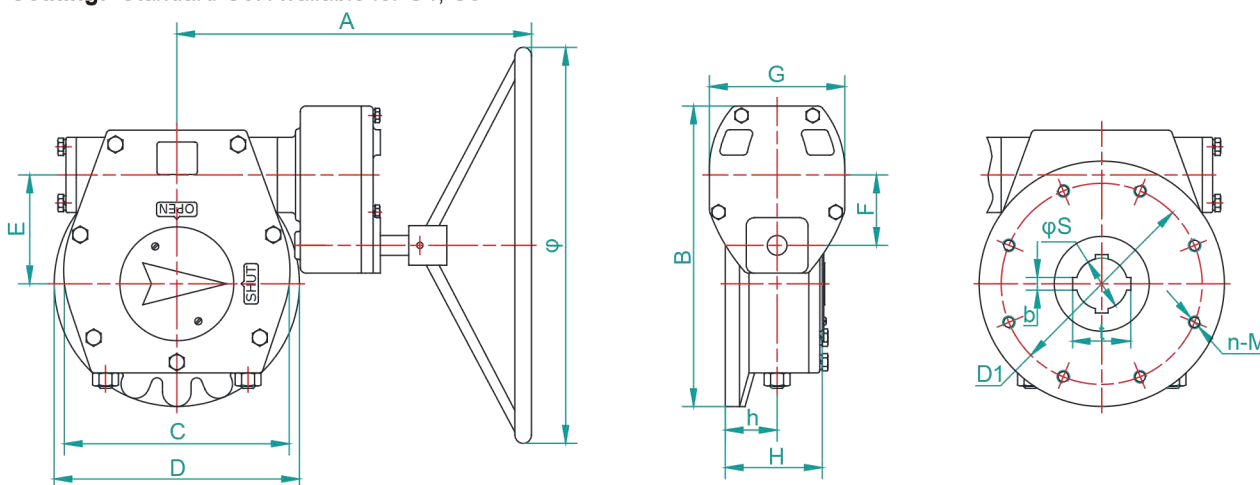
Specification

Housing: Cast iron

Shaft: SS410. SS304/SS316 as option

Gear: Ductile iron

Coating: Standard C3. Available for C4, C5



Specification and dimension

Model	Output [Nm]	Ratio	Input [Nm]	A	B	C	D	E	F	G	h	H	φ	WT [kg]
521-M16B	4400	170:1	130	403	310	250	210	124	83	162	57	113	500	44
521-M36	8000	210:1	180	448	380	286	310	138	89	171	73	130	500	66
521-M50S	11000	250:1	180	480	446	355	355	181	89	171	80	160	500	109
521-M50	16000	612:1	190	555	440	355	355	181	151	152	80	160	600	122
521-M60	24000	720:1	220	616	528	463	415	237	151	152	82	165	700	188
521-M65	35000	882:1	230	648	572	558	415	282	151	152	84	172	700	255
521-M70	50000	1242:1	200	686	657	610	475	309	192	193	107	225	700	310
521-M75	70000	1430:1	240	706	697	692	475	349	192	193	110	231	700	440
521-M80	100000	1805:1	350	821	826	760	560	391	264	266	130	270	800	700
521-M90	160000	2430:1	320	909	1003	968	686	491	298	338	138	300	800	1100

Mounting dimensions

Model	S	b	t	D1	n-M	Max stem-hole dia.	Allowable flange
521-M16B	55	16	63.6	165	4-M20	75	F14, F16
521-M36	65	16	73.6	254	8-M16	85	F16, F25
521-M50S	75	20	84.8	254	8-M16	110	F25, F30
521-M50	85	22	95.8	254	8-M16	110	F25, F30
521-M60	120	32	134.8	298	8-M20	160	F30, F35
521-M65	120	32	134.8	356	8-M30	160	F30, F35
521-M70	120	32	134.8	356	8-M30	160	F30, F35, F40
521-M75	150	36	166.8	406	8-M36	180	F35, F40
521-M80	150	36	166.8	406	8-M36	185	F35, F40, F48
521-M90	180	45	200.8	483	12-M36	240	F48, F60

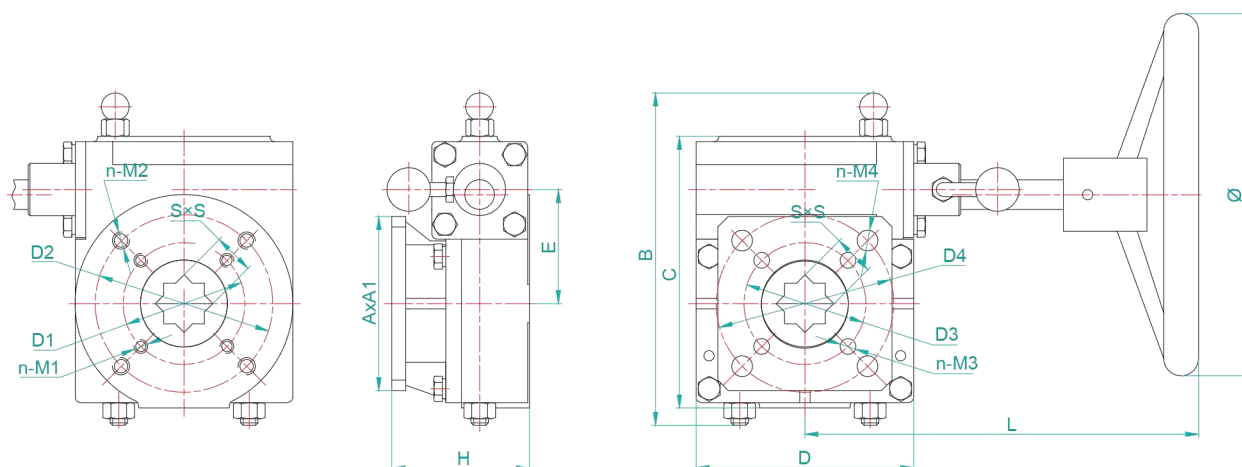
* S, b, t can be machined according to requirements.

The shaft driving hole can also be machined to be square or double-D, specify details before order.

Fig.522 Clutch gear box

Fig.522 Clutch gear box

- Used as manual operation between valve and actuator for 90° rotary valves, like butterfly valves, ball valves, etc.
- Offer manual operation solution for pneumatic valves.
- Easy operation and high transmission efficiency with high output torque.
- ISO5211 standard mounting flange, with double-square and key connection both available for requirement.
- Standard protection class IP65 (Can customize higher protection class).



Specification and dimension

Model	Output [Nm]	Ratio	Input [Nm]	Φ (1) [mm]	H	L	B	C	D	E	WT [kg]
522-C26	300	26 : 1	60	200	82	182	166	130	104	50.5	6.7
522-C38	550	38 : 1	60	200	79	221	191	156	125	65.5	13
	620		75	250	82	225	191	156	125	65.5	
	700		90	300	88	225	191	156	125	65.5	
522-C54	1000	54 : 1	100	250	86	233	234	200	175	85.5	20
	1200		120	300	95	233	234	200	175	85.5	
522-C80	1600	80 : 1	110	300	114	271	305	279	234	123	27
	2000		140	400	114	277	305	279	234	123	
522-C78	3100	78 : 1	200	600	120	367	363	322	276	141.6	37
522-C320	7000	320 : 1	120	500	244	464	435	386	300	156.5	105

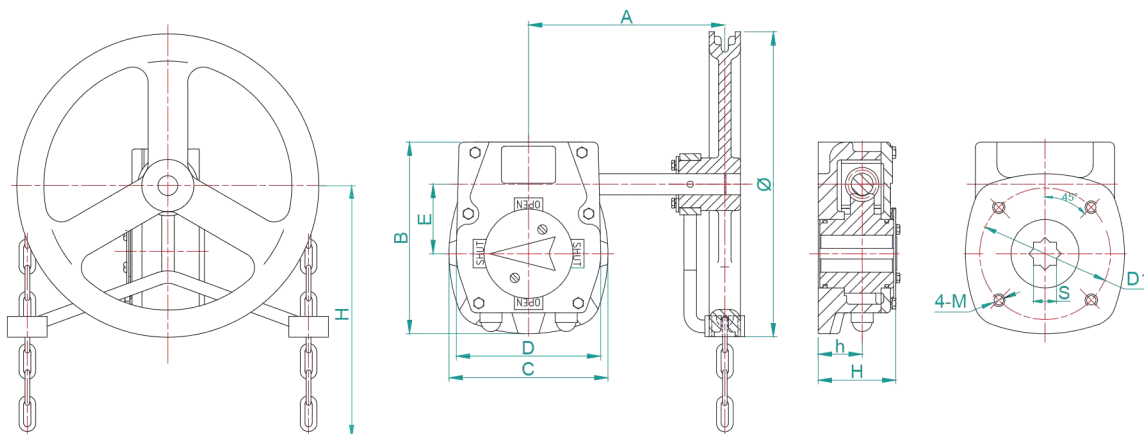
(1) Hand wheel dimension "Φ" can be changed in certain circumstance.

Mounting dimensions

Model	S×S	D1	n-M1	D2	n-M2	A×A1	D3	n-M3	D4	n-M4
522-C26	14×14	70	4-M8			64*64	70	4-Φ9		
	17×17	70	4-M8			64*64	70	4-Φ9		
522-C38	17×17	70	4-M8			100*70	70	4-Φ9		
	22×22	70	4-M8	102	4-M10	100*100	70	4-Φ9	102	4-Φ12
	27×27			102	4-M10	110*110			125	4-Φ14
	36×36			102	4-M10	130*130			140	4-Φ18
522-C54	27×27	102	4-M10	125	4-M12	110*110	102	4-Φ12		
	27×27	102	4-M10	125	4-M12	110*110			125	4-Φ14
	36×36	102	4-M10	140	4-M16	130*130			140	4-Φ18
	46×46			140	4-M16	156*156			165	4-Φ22
522-C80	36×36	140	4-M16			135*156	140	4-Φ18		
	46×46	165	4-M20			156*156	165	4-Φ22		
522-C78	36×36	140	4-M16			135*156	140	4-Φ18		
	46×46	165	4-M20			156*156	165	4-Φ22		
522-C320		254	8-M16			300	254	8-Φ18		

Chain handwheel to Fig.520, 521

- Used as manual operation for 90° rotary valves, like butterfly valves, ball valves, etc.
- Chain on handwheel for special working conditions.
- Housing in Aluminium alloy with good design and appearance, light in weight.
- Easy operation and high transmission efficiency with high output torque.
- ISO5211 standard mounting flange, with double-square and key connection both available for requirement.
- Standard protection class IP65 (Can customize higher protection class).



Specification and dimension

Model	Output [Nm]	Ratio	Input [Nm]	A	B	C	D	E	h	H	Φ	D1	4-M	S
520-15	170	24 : 1	30	132	115	-	100	45	27	48	200	70	4-M8	11,14,17
521-M10	500	42 : 1	45	215	145	118	107	53	35	61	200	102	4-M10	22
521-M12	1000	42 : 1	90	203	182	165	138	66	42	72	290	125	4-M12	27
521-M14	1800	60 : 1	110	203	231	200	184	89	50	81	410	140	4-M16	27
521-M14A	2500	70 : 1	130	213	252	216	210	101	50	81	410	140	4-M16	36
521-M15	3400	68 : 1	165	268	296	252	248	123	50	91	410	140	4-M16	36
521-M16	4400	88 : 1	169	293	354	315	313	153	50	93	410	165	4-M20	46

Remark: Please specify the dimension "H" or inform us the total length of the chain for inquiry.