

dertec[®]
Designed to Perform

Stainless Steel
WORM GEARBOXES.

FV



Dertec FV worm gearboxes have been developed with the aim of hygiene and cleanability. The design aims to minimize build-up of dirt and the round shape contributes to less accumulation. Adhesion of contaminants is minimized and therefore simplifies cleaning. The use of electro polished stainless steel 316 also contributes to the reduced use of strong chemical cleaning agents, which benefits the surface water quality. Duplex stainless steel hollow shafts with PNS hardening contribute to a long service life of the drive. The seals and lubrication used are suitable for use in the food industry. A hardened ground worm and use of Heavy duty TinBronze CuSn12Ni2-C further optimize the lifespan.

Dertec FV series wormgears consists of 6 different sizes from FV 030 to FV 090. Assembly with Dertec FP2SS stainless steel AC motors or with SL3SS Hygienic stainless steel AC motors enable a completely hygienic drive. For applications where speed and position control are important Dertec offers Signature Line Asynchronous motors or Signature line Synchronous motors with hygienic build in encoders.

Main features

Made of high quality carefully electro polished Stainless Steel AISI 316 (mirror Polished on request). The smooth design gives the gearbox a nice appearance, ready to suit all kinds of stainless steel machineries for the food industry.

Hardened shaft

All hollow shafts are produced in Duplex Stainless Steel 2205. The special PNS surface treatment ensures enough hardness to collaborate with our Special High Temperature Resistant Blue Shaft Seals. The PNS treatment increases the lifetime of shaft / seal cooperation and helps to reduce wear on the shaft surface. By this, the gearbox obtains a longer drip free operation compared to standard shaft / seal combinations made of SS304 with NBR or FKM. The use of above combination offers all the positive characteristics of stainless steel and the surface hardness of a hardened shaft.

Blue shaft seals

Our high performance engineered shaft seals have a Blue colour. It is a well overthought feature for food industry applications. It might be clear that the colour "Blue" is a not existing organic colour. In the context of food safety it is a common use to embed blue colours as these are very visible and easily to be recognised by Vision scanning systems.

Foodgrade lubrication

All gearboxes are standard equipped with NSH H1 certified Synthetic Foodgrade lubrication. On request it can be supplied with a Halal, Kosher or Nut Free certification.

Engraved tagplate

To avoid dirt traps under the commonly used motor identification tagplate, all our motors and gearboxes are being equipped with a laser engraved tagplate. Besides for the food safety this also prevents against possible lost of information because of taking away the tagplate or loosing the tagplate from the driveparts.

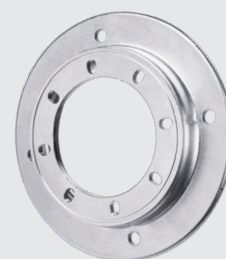
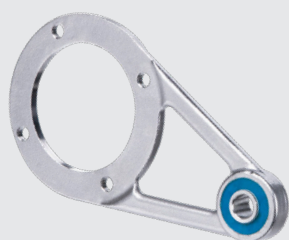
General specifications

- Standard ratio's 7,5 : 1 to 100 : 1
- 6 Frame sizes
- IEC motor adaption
- Standard hollow shafts 14, 18, 25, 28 and 35
Other shaft sizes on request
- Extra hygienic optional shaft covers.
(open and closed version)
- Easy clean torque arm with built in elastic element to reduce misalignment.
- Optional output flanges available
- Stainless Steel AISI316
- Duplex stainless steel 2205 output shaft
- Designed and produced in the Netherlands
- Double wormgear reductions possible

As a part of our standard procedure every drive is tested in our production facility in the Netherlands to ensure correct functioning.



FV 030		FV 040	
Ratio's	From: 7,5 : 1 To: 80 : 1	Ratio's	From: 7,5 : 1 To: 100 : 1
Standard shaft Ø	14 mm	Standard shaft Ø	18 mm
Maximum torque	Max. 20 Nm	Maximum torque	Max. 40 Nm
Maximum power	0.25 kW	Maximum power	Max. 0.55 kW
FV 050		FV 063	
Ratio's	From: 7,5 : 1 To: 100 : 1	Ratio's	From: 7,5 : 1 To: 100 : 1
Standard shaft Ø	25 mm	Standard shaft Ø	25 mm
Maximum torque	Max. 86 Nm	Maximum torque	Max. 159 Nm
Maximum power	Max. 1.5 kW	Maximum power	Max. 2.2 kW
FV 075		FV 090	
Ratio's	From: 7,5 : 1 To: 100 : 1	Ratio's	From: 7,5 : 1 To: 100 : 1
Standard shaft Ø	28 mm	Standard shaft Ø	35 mm
Maximum torque	Max. 230 Nm	Maximum torque	Max. 420 Nm
Maximum power	4.0 kW	Maximum power	4.0 kW



Torque Arms	
FV 030	SS 065 MS L85
FV 040	SS 075 MS L100
FV 050	SS 085 MS L100
	SS 085 MS L110S
FV 063	SS 095 MS L130S
	SS 095 MS L150
FV 075	SS 115 MS L160S
	SS 115 MS L200
FV 090	SS 130 MS L200

Easy Clean Closed Cover	
FV 030	SS 065 CC
FV 040	SS 075 CC
FV 050	SS 085 CC
FV 063	SS 095 CC
FV 075	SS 115 CC
FV 090	SS 130 CC

Easy Clean Open Cover	
FV 030	SS 065 C014
FV 040	SS 075 C018
FV 050	SS 085 C025
FV 063	SS 095 C025
FV 075	SS 115 C028
FV 090	SS 130 C035

Output Flanges	
FV 030	SS 065 FL80
FV 040	SS 075 FL110
	SS 075 FL140
FV 050	SS 085 FL120
	SS 085 FL125
FV 063	SS 095 FL160
	SS 095 FL180
FV 075	SS 115 FL200
FV 090	SS 130 FL250

FV Wormgearbox



Possible Geometrical Combinations

FV 030

n_2 [Min ⁻¹]	M_{2max} [Nm]			F_{r2} [N]	i	$\eta\%$			IEC 56 B14a	IEC 63 B14a
	2 pole	4 pole	6 pole			2 pole	4 pole	6 pole		
186.7	13	18	21	683	7.5	87%	84%	81%	✓	✓
140	13	18	21	752	10	85%	81%	77%	✓	✓
93.3	13	18	21	861	15	80%	76%	72%	✓	✓
70	12	18	21	948	20	77%	73%	69%	✓	✓
56	15	21	25	1021	25	71%	66%	61%	✓	✓
46.6	15	20	23	1085	30	70%	65%	60%	✓	✓
35	14	17	20	1194	40	65%	58%	51%	✓	✓
28	13	17	20	1286	50	61%	54%	47%	✓	✓
23.3	11	16	19	1367	60	54%	49%	44%	✓	
17.5	9	13	15	1504	80	45%	43%	40%	✓	

FV 040

n_2 [Min ⁻¹]	M_{2max} [Nm]			F_{r2} [N]	i	$\eta\%$			IEC63 B14a	IEC 71 B14a
	2 pole	4 pole	6 pole			2 pole	4 pole	6 pole		
186.7	28	40	44	1315	7.5	86%	85%	85%	✓	✓
140	29	40	44	1447	10	86%	83%	83%	✓	✓
93.3	31	40	43	1657	15	85%	79%	78%	✓	✓
70	29	39	44	1824	20	80%	77%	73%	✓	✓
56	29	38	44	1964	25	79%	75%	72%	✓	✓
46.6	35	46	49	2087	30	76%	69%	66%	✓	✓
35	31	40	47	2298	40	69%	65%	62%	✓	✓
28	29	39	45	2475	50	68%	61%	57%	✓	
23.3	28	37	43	2630	60	64%	57%	53%	✓	
17.5	25	33	38	2895	80	58%	51%	45%	✓	
14	23	30	34	3118	100	53%	47%	41%	✓	

P_{1n} =
Rated Motor
Power [kW]

n_2 =
Output Speed
[Min⁻¹]

M_{2n} =
Rated Output torque
[Nm]

M_{2max} =
Maximum permissible
output torque [Nm]

F_{r2} =
Permitted Overhung
Load Output Side [N]

i = Gear unit Ratio
 $\eta\%$ = Transmission
Efficiency %

f_s = Service Factor

FV 050

n_2 [Min ⁻¹]	M_{2max} [Nm]			F_{r2} [N]	i	$\eta\%$			IEC 63 B14a	IEC 71 B14a	IEC 80 B14a
	2 pole	4 pole	6 pole			2 pole	4 pole	6 pole			
186.7	52	69	85	1805	7.5	89%	86%	85%		✓	✓
140	54	73	84	1987	10	87%	84%	83%		✓	✓
93.3	56	74	84	2274	15	84%	81%	79%		✓	✓
70	54	72	77	2503	20	82%	78%	75%		✓	✓
56	51	70	72	2696	25	79%	75%	73%		✓	✓
46.6	63	86	90	2865	30	75%	71%	68%		✓	✓
35	60	76	80	3153	40	73%	67%	63%	✓	✓	
28	52	74	78	3397	50	70%	63%	59%	✓	✓	
23.3	51	68	70	3610	60	66%	59%	55%	✓	✓	
17.5	45	65	68	3973	80	61%	53%	49%	✓	✓	
14	40	54	60	4280	100	56%	48%	44%	✓		

FV 063

n_2 [Min ⁻¹]	M_{2max} [Nm]			F_{r2} [N]	i	$\eta\%$			IEC 71 B14A	IEC 80 B14a	IEC 90 B14a
	2 pole	4 pole	6 pole			2 pole	4 pole	6 pole			
186.7	93	130	149	2359	7.5	91%	89%	86%		✓	✓
140	99	131	155	2597	10	88%	86%	84%		✓	✓
93.3	103	138	154	2973	15	85%	82%	80%		✓	✓
70	99	132	145	3272	20	83%	80%	77%		✓	✓
56	92	129	137	3524	25	80%	77%	74%		✓	✓
46.6	118	159	170	3745	30	76%	73%	70%		✓	✓
35	106	145	165	4122	40	73%	69%	65%	✓	✓	✓
28	102	132	145	4440	50	72%	65%	61%	✓	✓	
23.3	95	128	138	4719	60	69%	62%	58%	✓	✓	
17.5	86	123	129	5193	80	64%	56%	52%	✓	✓	
14	78	119	126	5595	100	59%	51%	47%	✓		

FV 075

n_2 [Min ⁻¹]	M_{2max} [Nm]			F_{r2} [N]	i	$\eta\%$			IEC 80 B14A	IEC 90 B14A	IEC 100 B14A	IEC 112 B14A
	2 pole	4 pole	6 pole			2 pole	4 pole	6 pole				
186.7	129	186	216	2785	7.5	89%	88%	86%		✓	✓	✓
140	144	194	227	3065	10	88%	87%	84%		✓	✓	✓
93.3	149	205	235	3509	15	86%	84%	81%		✓	✓	✓
70	164	212	236	3862	20	84%	81%	78%	✓	✓		
56	152	199	214	4160	25	82%	79%	75%	✓	✓		
46.7	172	230	255	4421	30	79%	76%	71%	✓	✓		
35	166	218	234	4865	40	76%	72%	67%	✓	✓		
28	197	207	222	5241	50	73%	68%	63%	✓			
23.3	173	200	211	5569	60	70%	64%	60%	✓			
17.5	132	192	203	6130	80	66%	59%	55%	✓			
14	122	182	191	6603	100	62%	55%	50%	✓			

FV 090

n_2 [Min ⁻¹]	M_{2max} [Nm]			F_{r2} [N]	i	$\eta\%$			IEC 80 B14A	IEC 90 B14A	IEC 100 B14A	IEC 112 B14A
	2 pole	4 pole	6 pole			2 pole	4 pole	6 pole				
186.7	212	290	339	3081	7.5	91%	89%	88%		✓	✓	✓
140	236	307	366	3391	10	90%	88%	86%		✓	✓	✓
93.3	261	359	412	3882	15	0%	85%	83%		✓	✓	✓
70	258	352	383	4273	20	86%	83%	81%		✓	✓	✓
56	254	332	368	4603	25	85%	81%	78%		✓	✓	✓
46.7	315	420	468	4891	30	82%	78%	75%		✓	✓	✓
35	284	359	402	5383	40	79%	74%	71%	✓	✓		
28	258	339	395	5799	50	77%	71%	67%	✓	✓		
23.3	250	318	351	6163	60	74%	68%	64%	✓	✓		
17.5	230	284	309	6783	80	70%	63%	59%	✓			
14	201	269	280	7306	100	66%	59%	54%	✓			

P_{1n} =
Rated Motor
Power [kW]

n_2 =
Output Speed
[Min⁻¹]

M_{2n} =
Rated Output torque
[Nm]



M_{2max} =
Maximum permissible
output torque [Nm]

F_{r2} =
Permitted Overhung
Load Output Side [N]

i = Gear unit Ratio
 $\eta\%$ = Transmission
Efficiency %

f_s = Service Factor

Gearbox Selection Tables

P_{1n} [kW]	n_2 min-1	M_{2n} [Nm]	i	F_{r2} [N]	f_s		
0.06	186,7	2,6	7,5	683	7,0	FV 030 IEC56	561-4 B14A
	140	3,3	10	752	5,4		
	93,3	4,7	15	861	3,9		
	70	5,9	20	948	3,1		
	56	6,8	25	1021	3,1		
	46,7	7,9	30	1085	2,5		
	35	9,7	40	1194	1,9		
	28	11	50	1286	1,5		
0.09	186,7	3,9	7,5	683	4,7	FV 030 IEC56	562-4 B14A
	140	5,0	10	752	3,6		
	93,3	7,0	15	861	2,6		
	70	8,8	20	948	2,0		
	56	10	25	1021	2,1		
	46,7	12	30	1085	1,7		
	35	14	40	1194	1,2		
	28	17	50	1286	1,0		
0.12	186,7	5,2	7,5	683	3,5	FV030 IEC63	631-4 B14A
	140	6,6	10	752	2,7		
	93,3	9,3	15	861	1,9		
	70	12	20	948	1,5		
	56	14	25	1021	1,6		
	46,7	16	30	1085	1,3		
	46,7	17	30	2087	2,7	FV 040 IEC63	631-4 B14A
	35	21	40	2298	1,9		
	28	25	50	2475	1,6		
	23,3	28	60	2630	1,3		
	17,5	33	80	2895	1,0	FV 050 IEC63	631-4 B14A
	23,3	29	60	3610	2,3		
	17,5	35	80	3973	1,9		
	14	39	100	4280	1,4		
0.18	186,7	7,7	7,5	683	2,3	FV 030 IEC63	632-4 B14A
	140	10	10	752	1,8		
	93,3	14	15	861	1,3		
	70	18	20	948	1,0		
	56	20	25	1021	1,0		
	70	19	20	1824	2,1	FV 040 IEC63	632-4 B14A
	56	23	25	1964	1,7		
	46,7	25	30	2087	1,8		
	35	32	40	2298	1,3		
	28	37	50	2475	1,0		

P_{1n} =
Rated Motor
Power [kW]

n_2 =
Output Speed
[Min⁻¹]



M_{2n} =
Rated Output torque
[Nm]



M_{2max} =
Maximum permissible
output torque [Nm]

F_{r2} =
Permitted Overhung
Load Output Side [N]

i = Gear unit Ratio
 η = Transmission
Efficiency %

f_s = Service Factor

P_{1n} [kW]	n_2 min-1	M_{2n} [Nm]	i	F_{r2} [N]	f_s		
0.18	45	28	20	2113	1,6	FV 040 IEC71	711-6 B14A
	36	34	25	2276	1,3		
	30	38	30	2419	1,3		
	22.5	47	40	2662	1,0		
	35	33	40	3153	2,3	FV 050 IEC63	632-4B 14A
	28	39	50	3397	1,9		
	23.3	43	60	3610	1,6		
	17.5	52	80	3973	1,2		
	18	56	50	3936	1,4	FV 050 IEC71	711-6 B14A
	15	63	60	4183	1,1	FV 063 IEC71	711-6 B14A
	15	66	60	5467	2,1		
	11.3	79	80	6018	1,6		
	9	90	100	6270	1,4		
0.25	186.7	11	7.5	1315	3,6	FV 040 IEC71	711-4 B14A
	140	14	10	1447	2,8		
	93.3	20	15	1657	2,0		
	70	26	20	1824	1,5		
	56	32	25	1964	1,2		
	46.7	35	30	2087	1,3		
	120	17	7.5	1524	2,6	FV 040 IEC71	712-6 B14A
	90	22	10	1677	2,0		
	60	31	15	1920	1,4		
	45	39	20	2113	1,1		
	70	27	20	2503	2,7	FV 050 IEC71	711-4 B14A
	56	32	25	2696	2,2		
	46.7	36	30	2865	2,3		
	35	46	40	3153	1,7		
	28	54	50	3397	1,4		
	23.3	60	60	3610	1,1		
	45	40	20	2900	1,9	FV 050 IEC71	712-6 B14A
	36	48	25	3124	1,5		
	30	54	30	3320	1,7		
	22.5	67	40	3654	1,2		
	18	78	50	3936	1,0	FV 063 IEC71	711-4 B14A
	28	55	50	4440	2,4		
	23.3	63	60	4719	2,0		
	17.5	76	80	5193	1,6		
	14	87	100	5595	1,4		
	18	81	50	5145	1,8	FV063 IEC71	712-6 B14A
	15	92	60	5467	1,5		
	11.3	110	80	6018	1,2		
	9	125	100	6270	1,0		
	17.5	80	80	6130	2,4	FV075 IEC71	711-4 B14A
	14	94	100	6603	1,9	FV075 IEC71	712-6 B14A
	11.3	117	80	7103	1,7		
9	133	100	7380	1,4			

P_{1n} [kW]	n_2 min-1	M_{2n} [Nm]	i	F_{r2} [N]	f_s		
0.37	186.7	16	7.5	1315	2,5	FV040 IEC71	712-4 B14a
	140	21	10	1447	1,9		
	93.3	30	15	1657	1,3		
	70	39	20	1824	1,0		
	140	21	10	1987	3,4	FV050 IEC71	712-4 B14a
	93.3	31	15	2274	2,4		
	70	39	20	2503	1,9		
	56	47	25	2696	1,5		
	46.7	54	30	2865	1,6		
	35	68	40	3153	1,1		
	120	25	7.5	2091	3,4	FV050 IEC80	801-6 B14a
	90	33	10	2302	2,6		
	60	47	15	2635	1,8		
	45	59	20	2900	1,3		
	36	72	25	3124	1,0		
	30	80	30	3320	1,1		
	35	70	40	4122	2,1	FV063 IEC71	712-4 B14a
	28	82	50	4440	1,6		
	23.3	94	60	4719	1,4		
	17.5	113	80	5193	1,1		
	45	60	20	3791	2,4	FV 063 IEC80	801-6 B14A
	36	73	25	4084	1,9		
	30	82	30	4339	2,1		
	22.5	102	40	4776	1,6		
	18	120	50	5145	1,2		
	15	137	60	5467	1,0		
	23.3	97	60	5569	2,1	FV 075 IEC 71	712-4 B14A
	17.5	119	80	6130	1,6		
14	139	100	6603	1,3			
18	124	50	6073	1,8	FV 075 IEC80	801-6 B14A	
15	141	60	6453	1,5			
11,3	173	80	7103	1,2			
9	196	100	7380	1,0			
11,3	185	80	7859	1,7	FV 090 IEC80	801-6 B14A	
9	212	100	8180	1,3			
0.55	186.7	24	7.5	1805	2,9	FV050 IEC80	801-4 B14a
	140	32	10	1987	2,3		
	93.3	46	15	2274	1,6		
	70	59	20	2503	1,2		
	56	70	25	2696	1,0		
	46.7	80	30	2865	1,1		
	120	37	7.5	2091	2,3	FV050 IEC80	802-6 B14a
	90	48	10	2302	1,7		
	60	69	15	2635	1,2		

P_{1n} =
Rated Motor
Power [kW]

n_2 =
Output Speed
[Min⁻¹]



M_{2n} =
Rated Output torque
[Nm]



M_{2max} =
Maximum permissible
output torque [Nm]

F_{r2} =
Permitted Overhung
Load Output Side [N]

i = Gear unit Ratio
 $\eta\%$ = Transmission
Efficiency %

f_s = Service Factor

P_{1n} [kW]	n_2 min-1	M_{2n} [Nm]	i	F_{r2} [N]	f_s		
0.55	70	60	20	3272	2,2	FV063 IEC80	801-4 B14a
	56	72	25	3524	1,8		
	46.7	82	30	3745	1,9		
	35	104	40	4122	1,4		
	28	122	50	4440	1,1		
	60	70	15	3444	2,2	FV063 IEC80	802-6 B14a
	45	90	20	3791	1,6		
	36	108	25	4084	1,3		
	30	123	30	4339	1,4		
	22.5	152	40	4776	1,1		
	35	108	40	4865	2,0	FV 075 IEC80	801-4 B14A
	28	128	50	5241	1,6		
	23,3	144	60	5569	1,4		
	17,5	177	80	6130	1,1		
	30	124	30	5122	2,1		
	22,5	156	40	5637	1,5	FV 075 IEC80	802-6 B14a
	18	184	50	6073	1,2		
	15	210	60	6453	1,0		
	17,5	189	80	6783	1,5	FV 090 IEC80	801-4 B14A
	14	221	100	7306	1,2		
18	196	50	6719	2,0	FV 090 IEC80	802-6 B14A	
15	224	60	7140	1,6			
11,3	275	80	7859	1,1			
0.75	186.7	33	7.5	1805	2,1	FV050 IEC80	802-4 B14a
	140	43	10	1987	1,7		
	93.3	62	15	2274	1,2		
	93.3	63	15	2973	2,2	FV063 IEC80	802-4 B14a
	70	82	20	3272	1,6		
	56	98	25	3524	1,3		
	46.7	112	30	3745	1,4		
	35	141	40	4122	1,0		
	120	51	7.5	2734	2,9	FV063 IEC90	90S-6 B14a
	90	67	10	3009	2,3		
	60	96	15	3444	1,6		
	45	123	20	3791	1,2		
	56	101	25	4160	2,0		
	46,7	117	30	4421	2,0	FV 075 IEC80	802-4 B14A
	35	147	40	4865	1,5		
	28	174	50	5241	1,2		
	23,3	196	60	5569	1,0		
	60	97	15	4065	2,4		
	45	124	20	4474	1,9	FV 075 IEC90	90S-6 B14A
	36	149	25	4820	1,4		
30	170	30	5122	1,5			
22,5	213	40	5637	1,1			

P_{1n} [kW]	n_2 min-1	M_{2n} [Nm]	i	F_{r2} [N]	f_s							
0.75	28	182	50	5799	1,9	FV 090 IEC80	802-4 B14A					
	23,3	209	60	6163	1,5							
	17,5	258	80	6783	1,1							
	0.75	30	179	30	5667	2,6	FV 090 IEC90	90S-6 B14A				
		22,5	226	40	6238	1,8						
		18	267	50	6719	1,5						
		15	306	60	7140	1,1						
1.1		120	75	7,5	2734	2,0			FV 063 IEC90	90L-6 B14A		
		90	98	10	3009	1,6						
	60	140	15	3444	1,1							
	1.1	186,7	50	7,5	2359	2,6	FV 063 IEC90	90S-4 B14A				
		140	65	10	2597	2,0						
		93,3	92	15	2973	1,5						
		70	120	20	3272	1,1						
		56	144	25	3524	0,9						
		46,7	164	30	3745	1,0						
		1.1	90	98	10	3551	2,3	FV 075 IEC90	90L-6 B14A			
			60	142	15	4065	1,7					
			45	182	20	4474	1,3					
			36	219	25	4820	1,0					
			30	249	30	5122	1,0					
			1.1	93,3	95	15	3509			2,1	FV 075 IEC90	90S-4 B14A
				70	122	20	3862			1,7		
				56	148	25	4160			1,3		
				46,7	171	30	4421			1,3		
		35		216	40	4865	1,0					
		36		228	25	5333	1,6					
		1.1	30	263	30	5667	1,8	FV 090 IEC90	90L-6 B14A			
22,5	331		40	6238	1,2							
18	391		50	6719	1,0							
35	222		40	5383	1,6							
28	266		50	5799	1,3							
23,3	306		60	6163	1,0							
1.5	186,7		68	7,5	2359	1,9	FV 063 IEC90			90L-4 B14A		
	140	88	10	2597	1,5							
	93,3	126	15	2973	1,1							
	1.5	120	103	7,5	3227	2,1	FV 075 IEC100	100L1-6 B14A				
		90	134	10	3551	1,7						
		60	193	15	4065	1,2						
		140	89	10	3065	2,2						
		93,3	129	15	3509	1,6						
		70	166	20	3862	1,3						
	1.5	56	202	25	4160	1,0	FV 075 IEC90	90L-4 B14A				
		46,7	233	30	4421	1,0						

P_{1n} =
Rated Motor
Power [kW]

n_2 =
Output Speed
[Min⁻¹]



M_{2n} =
Rated Output torque
[Nm]

M_{2max} =
Maximum permissible
output torque [Nm]

F_{r2} =
Permitted Overhung
Load Output Side [N]

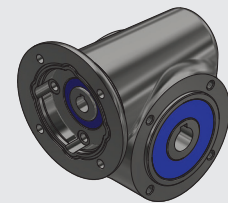
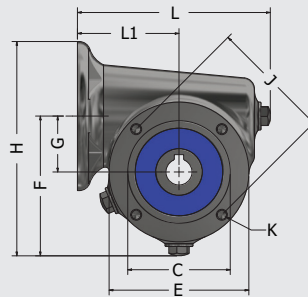
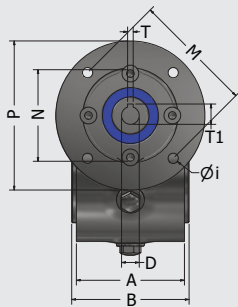
i = Gear unit Ratio
 η % = Transmission
Efficiency %

f_s = Service Factor

P_{1n} [kW]	n_2 min-1	M_{2n} [Nm]	i	F_{r2} [N]	f_s		
1.5	90	137	10	3929	2,7	FV 090 IEC100	100L1-6 B14A
	60	198	15	4498	2,1		
	45	258	20	4951	1,5		
	36	310	25	5333	1,2		
	30	358	30	5667	1,3	FV 090 IEC90	90L-4 B14A
	70	170	20	4273	2,1		
	56	207	25	4603	1,6		
	46,7	239	30	4891	1,7		
35	303	40	5383	1,2			
2.2	186,7	99	7,5	2785	1,9	FV 075 IEC100	100L1-4 B14A
	140	131	10	3065	1,5		
	93,3	189	15	3509	1,1		
	186,7	100	7,5	3081	2,9	FV 090 IEC100	100L1-4 B14A
	140	132	10	3391	2,3		
	93,3	191	15	3882	1,9		
	70	249	20	4273	1,4		
	56	304	25	4603	1,1		
	46,7	351	30	4891	1,2		
	120	154	7,5	3570	2,2		
	90	201	10	3929	1,8	FV 090 IEC112	112M-6 B14A
	60	291	15	4498	1,4		
	45	378	20	4951	1,0		
	3.0	186,7	135	7,5	2785	1,4	FV 075 IEC100
140		178	10	3065	1,1		
186,7		137	7,5	3081	2,1	FV 090 IEC100	100L2-4 B14A
140		180	10	3391	1,7		
93,3		261	15	3882	1,4		
70		340	20	4273	1,0		
4.0	186,7	180	7,5	2785	1,0	FV 075 IEC112	112M-4 B14A
	186,7	182	7,5	3081	1,6	FV 090 IEC112	112M-4 B14A
	140	240	10	3391	1,3		
	93,3	348	15	3882	1,0		

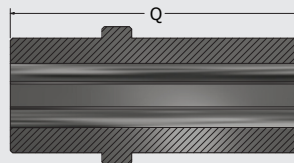
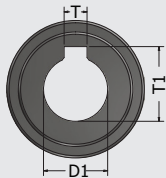
General Dimensions

FV General Dimensions



Gearbox	Motor Type	A	B	C	D	E	F	G	H	I	J	K	L	L1	M	N	P	T	T1
FV 030	IEC 56B14A	58	63	55	9	75	75	30	115	5.5	65	4 x M6	104	54.5	65	50	80	3	10.2
	IEC 63B14A	58	63	55	11	75	75	30	120	5.5	65	4 x M6	104	54.5	75	60	90	4	12.8
FV 040	IEC 63B14A	73	78	60	11	90	97	40	142	5.5	75	4 x M6	128	69.5	75	60	90	4	12.8
	IEC 71B14A	73	78	60	14	90	97	40	150	6.5	75	4 x M6	128	69.5	85	70	105	5	16.3
FV 050	IEC 63B14A	87	92	70	11	100	118	50	163	5.5	85	4 x M8	144	79.5	75	60	90	4	12.8
	IEC 71B14A	87	92	70	14	100	118	50	171	6.5	85	4 x M8	144	79.5	85	70	105	5	16.3
	IEC 80B14A	87	92	70	19	100	118	50	178	7.0	85	4 x M8	144	79.5	100	80	120	6	21.8
FV 063	IEC 71B14A	105	111	80	14	110	139	63	184	6.5	95	4 x M8	176	95	85	70	105	5	16.3
	IEC 80B14A	105	111	80	19	110	139	63	192	6.5	95	4 x M8	175	94	100	80	120	6	21.8
	IEC 90B14A	105	111	80	24	110	139	63	199	8.5	95	4 x M8	175	94	115	95	140	8	27.3
FV 075	IEC 80B14A	124	130	95	19	140	168	75	228	7	115	8 x M8	207	112.5	100	80	120	6	21.8
	IEC 90B14A	124	130	95	24	140	168	75	238	9	115	8 x M8	207	112.5	115	95	140	8	27.3
	IEC 100B14A	124	130	95	28	140	168	75	248	9	115	8 x M8	207	112.5	130	110	160	8	31.3
	IEC 112B14A	124	130	95	28	140	168	75	248	9	115	8 x M8	207	112.5	130	110	160	8	31.3
FV 090	IEC 80B14A	134	140	110	19	160	198	90	258	7	130	8 x M10	241	129.5	100	80	120	6	21.8
	IEC 90B14A	134	140	110	24	160	198	90	268	9	130	8 x M10	241	129.5	115	95	140	8	27.3
	IEC 100B14A	134	140	110	28	160	198	90	278	9	130	8 x M10	241	129.5	130	110	160	8	31.3
	IEC 112B14A	134	140	110	28	160	198	90	278	9	130	8 x M10	241	129.5	130	110	160	8	31.3

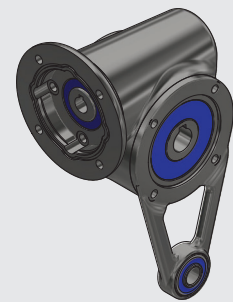
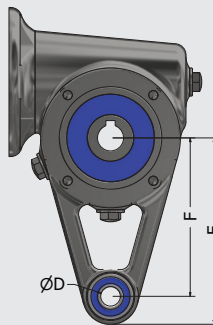
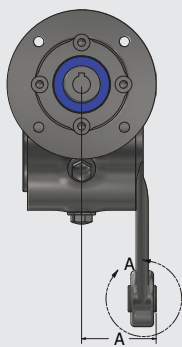
FV Hollow Shaft



Gearbox	D1	Q	T	T1
FV 030	14	63	5	16.3
FV 040	18	78	6	20.8
FV 050	25	92	8	28.3
FV 063	25	111	8	28.3
FV 075	28	130	8	31.3
FV 090	35	140	10	38.3

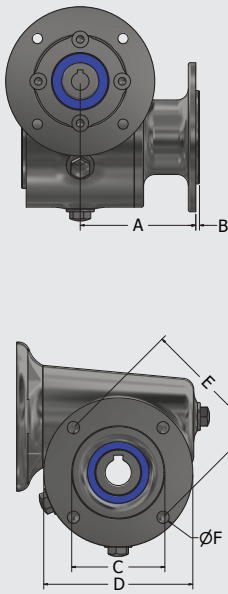
Different hollow shaft dimensions possible on request

FV Torque Arms



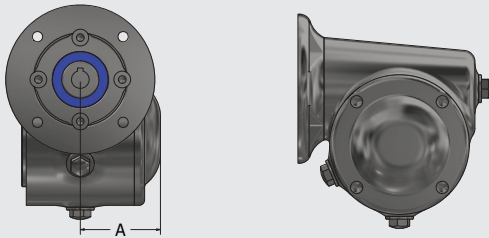
Gearbox	Torque Arm	A	B	C	D	E	F
FV 030	SS 065 MS L85	40	12	15	10.5	100	85
FV 040	SS 075 MS L100	47.3	12	15	10.5	116	100
FV 050	SS 085 MS L100	55.3	12	15	10.5	116	100
	SS 085 MS L110S	55.3	12	15	10.5	126	110
FV 063	SS 095 MS L130S	64.3	12	15	10.5	146	130
	SS 095 MS L150	64.3	12	15	10.5	166	150
FV 075	SS 115 MS L160S	79.3	23	26	20.5	185	160
	SS 115 MS L200	79.3	23	26	20.5	225	200
FV 090	SS 130 MS L200	85.5	23	26	20.5	225	200

FV Output Flanges



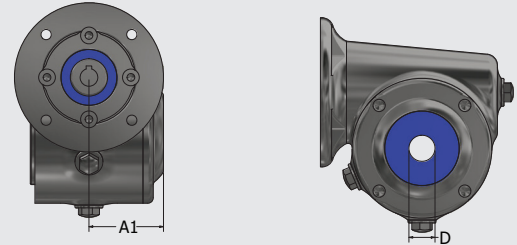
Gearbox	Flange Type	A	B	C	D	E	F
FV 030	SS 065 FL80	62	2	50	80	68	6.6
FV 040	SS 075 FL110	70	2	60	110	85	8.5
	SS 075 FL140	70	2	95	140	115	8.5
FV 050	SS 085 FL120	90	2.5	80	120	100	7
	SS 085 FL125	90	2	70	125	85	11
FV 063	SS 095 FL160	81.5	4	110	160	130	9
	SS 095 FL180	111.5	2	115	180	150	11
FV 075	SS 115 FL200	90	3.5	130	200	165	11
FV 090	SS 130 FL250	93.5	4	180	250	215	13.5

FV Closed Cover



Gearbox	Closed Cover	A
FV 030	SS 065 CC	43
FV 040	SS 075 CC	56.5
FV 050	SS 085 CC	64
FV 063	SS 095 CC	78.5
FV 075	SS 115 CC	90
FV 090	SS 130 CC	95

FV Open Cover



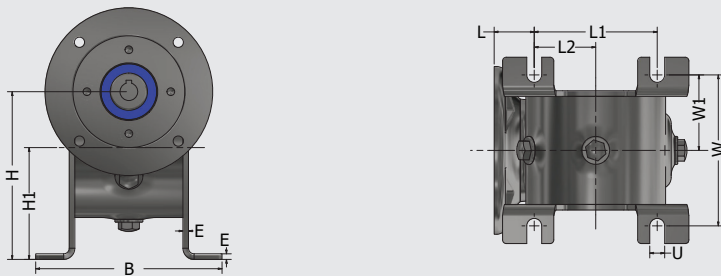
Gearbox	Open Cover	A1	D
FV 030	SS 065 C014	41.5	14
FV 040	SS 075 C018	54	18
FV 050	SS 085 C025	61	25
FV 063	SS 095 C025	74.5	25
FV 075	SS 115 C028	90	28
FV 090	SS 130 C035	95	35

FV Mounting Feet mounted inwards



Gearbox	Feet Type	B	E	H	H1	L	L1	L2	W	W1	U
FV 030	SS 065 VP60	64	3	90	60	21.5	66	33	41	20.5	8
FV 040	SS 075 VP70	79	3	110	70	34.5	70	35	60	30	6.5
FV 050	SS 085 VP80	93	3	130	80	39.5	80	40	70	35	8.5
FV 063	SS 095 VP90	113	4	153	90	44	100	50	84	42	8.5
FV 075	SS 115 VP	Not available yet.									
FV 090	SS 130 VP	Not available yet.									

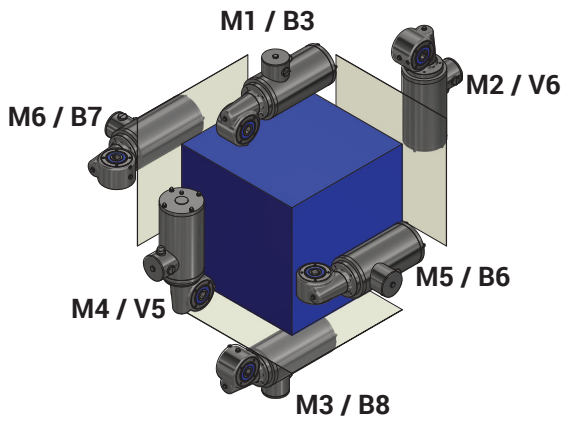
FV Mounting Feet mounted outwards



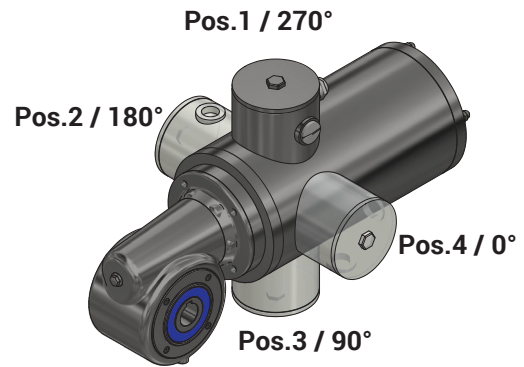
Gearbox	Feet Type	B	E	H	H1	L	L1	L2	W	W1	U
FV 030	SS 065 VP60	100	3	90	60	21.5	66	33	81	40.5	8
FV 040	SS 075 VP70	109	3	110	70	34.5	77	35	92	46	6.5
FV 050	SS 085 VP80	129	3	130	80	39.5	80	40	110	55	8.5
FV 063	SS 095 VP90	156	4	153	90	44	100	50	134	67	8.5
FV 075	SS 115 VP	Not available yet.									
FV 090	SS 130 VP	Not available yet.									



Mounting Positions



Terminal Box Positions



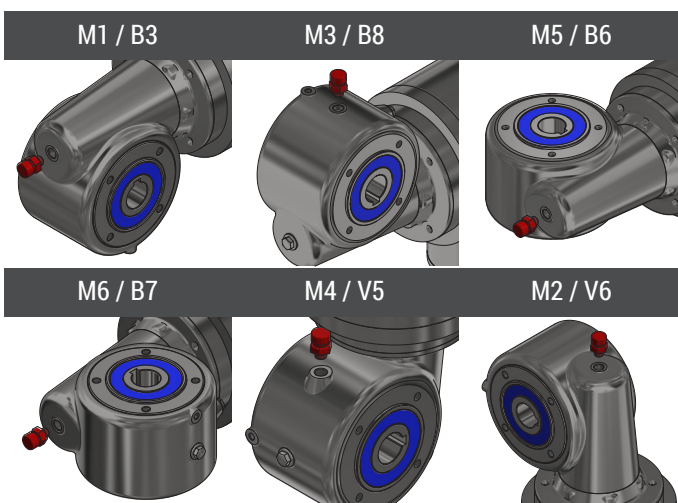
Lubrication Quantity

Oil Quantity in ML.	Mounting Position					
	M1 (B3)	M3 (B8)	M6 (B7)	M5 (B6)	M4 (V5)	M2 (V6)
Gearbox						
FV 030	40	40	30	30	40	40
FV 040	75	75	75	75	75	75
FV 050	190	190	190	190	190	190
FV063	340	340	340	340	340	340
FV 075	440	440	440	440	440	440
FV 090	1200	1200	1200	1200	1200	1200

Lubrication Type

Lubrication Brand	Lubrication Type	
Matrix	Foodmax 460	Standard
Castrol	Optileb GT 460	Alternative
Bechem	Berusrsynth 460H1	Alternative
Shell	Casida Fluid GL460	Alternative
Mobil	SHC Cibus 460	Alternative

Debreather Positions



Weight

Gearbox	Weight
FV 030	2.1 Kg
FV 040	3.7 Kg
FV 050	5.7 Kg
FV 063	8.9 Kg
FV 075	16.4 Kg
FV 090	22.0 Kg



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