



Danfoss DTD-14.7-7.7 D-Track Two Speed Axial Piston Motor Owner's Manual

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Danfoss DTD-14.7-7.7 D-Track Two Speed Axial Piston Motor



Product Information

The D-Track Two-speed axial piston motor is a durable and powerful track drive motor designed for various applications, including excavators. It features a two-speed design with displacements ranging from 14 cm³ to 185 cm³ [0.9 in³ to 11.3 in³] and a continuous pressure rating of 365 bar [5,294 psi]. The motor has an integrated design with a reducer, parking brake, and multi-functioning valves, providing high efficiency with smooth acceleration and deceleration. Customizable features include the shockless relief valve, counter-balance valve, anti-cavitation valve, and auto-two-speed function.

Features

- Two-speed axial piston motor, reducer integrated (DTD14 is one speed)
- Motor displacements from 14 cm³ to 185 cm³ [0.9 in³ to 11.3 in³]
- Rated pressure 365 bar [5,294 psi], peak pressure 430 bar [6,237 psi]
- Max flow 380 l/min [100 US gal/min]
- Max output torque 74.4 kNm [54,875 lb-ft]
- Integrated shockless relief valve, counter-balance valve, anti-cavitation valve, auto-2-speed function
- Applicable for 1.5T to 40T excavators
- Proven reliability, output over 50,000 units/year globally
- Higher efficiency by optimized rotating parts designs
- Better performance smooth starting and stopping with less shock and more precise positioning
- Compact design and easy Installation with exchangeability

Markets/Applications

- Excavator track
- AWP track
- Drilling machine track
- Undercarriage track
- Special crawler vehicle track
- Winch

Product specifications

DTD: Track device with gearbox

Model	Motor displacement	Max. motor speed	Gear ratio	Max. output torque	Max. output speed	Total displacement	Max. flow	Max. rated pressure	Mechanical brake torque (motor)	Automatic 2-speed	Relief valve	Anti-cavitation v/v	Weight	Applicable vehicle masses
	cm ³ /rev	rpm		N.m	rpm	cm ³ /rev	l/min	Mpa	N.m				Kg	Ton
DTD-14.7/7.7	14.7	3,116.9	42.6/36	2,200.6	38.3/73.1	626.7	24	22	37.26		X	p	27	1.5~2.0
DTD-16	16	1,056	31	1,549	34.2	496	17	19.6	18	X	X	X	25	1.5~2.0

DTD-16 .4/11.4	16.4	3,07 0	42.6 36	2,78 5	50/7 2	699. 2304	35	25	37.2 6		p	p	27	1.5~ 2.0
DTD-16 .4/10.2	16.4	2,94 1.2	42.6 36	2,78 5	42.9/ 69	699. 2304	30	25	37.2 6		p	p	27	1.5~ 2.0
DTD-18 /10.3	18	3,14 6.7	42.6 36	2,99 9.8	42.3/ 76.2	767. 4	32,5	24.5	29.4		X	p	27	1.5~ 2.0
	18	3,39 8	42.6 36	2,47 8.1	45.6/ 79.7	767. 4	35	24.5	49	p	X		27	1.5~ 2.0
DTD-18 /9	18.4	2,66 7	53.7	2,48 3	37.6 9/77. 07	636. 6	24	24.5	–			X	41	2.5~ 3
DTD-16 .4/10.4	16.4	3,36 5.4	53.7	3,02 0.4	39.7/ 62.6	880. 68	35	21.8	49	X	p	X	38	3.0~ 3.5
DTD-18 /10.1	18	3,46 5.3	53.7	3,31 7.5	36.2/ 64.5	966. 6	35	21.8	49	X	p	X	38	3.0~ 3.5
	18	3,46 5.3	53.7	3,31 7.5	36.2/ 64.5	966. 6	35	24.5	42.7		X		38	3.0~ 3.5
DTD-21 /11.2	21	3,12 5	53.7	3,69 6.1	31/5 8.2	1,26 2	35	20.6	49	X	p	X	38	3.0~ 3.5
	21	3,12 5	53.7	3,87 0.6	31/5 8.2	1,12 7	35	21.6	49	X		X	41	3.0~ 3.5
	21	3,30 3.6	53.7	4,22 3.7	32.8/ 61.5	1,12 7	37	23.5	42,7		p	p	38	3.0~ 3.5
	21	3,57 1.4	53.7	4,40 0.2	35.5/ 66.5	1,12 7	40	24.5	34.8/ 42.7		p	p	38	3.0~ 3.5
DTD-23 .04/12.6 6	23.0 4	2,76 4.6	53.7	4,53 8.5	28.3/ 51.5	1,23 7.4	35	23	42.7		p	p	38	3.0~ 3.5
DTD-23 .5/14.7	23.5	2,38 0	53.7	4,72 6.8	27.7/ 44.3	1,26 2	35	23.5	49	X	p	X	38	3.0~ 3.5
	23.5	2,38 0	53.7	4,72 6.8	27.7/ 44.3	1,26 2	35	23.5	42.7		p	p	38	3.0~ 3.5
DTD-40 /20.6	40	2,67 0	45.5 68	7,11 1.7	30.2/ 58.6	1,82 3	55	24.5	82.3			X	80	5 ~ 6
	40	2,91 2	45.5 68	8,72 2	27.9/ 54.2	1,82 3	60	25.5	82.3			X	80	5 ~ 6
DTD-43 .7/23.1	43.7	2,38 1	53.7	10,2 53.8	23.4/ 44.3	2,34 7	55	27.4	82.3	p		X	85	5 ~ 6
	43.7	2,38 1	45.6	6,83 5.2	27.6/ 52.2	1,99 1	55	21.6	82.3	p		X	85	5 ~ 6

	43.7	2,50 0	53.7	8,06 1	24.6/ 46.5	2,34 7	57.7 5	21.6	82.3			X	85	5 ~ 6
DTD-46 .6/27.5	46.6	2,98 1.8	53.7	1,09 34.4	32.7/ 55.5	2,50 2	82	27.4	82.3	p		X	85	7~7. 5
	46.6	2,98 1.8	45.6	9,27 7	38.6/ 65.4	2,12 3	82	27.4	115. 5	p		X	85	7~7. 5
	46.6	2,59 9	53.7	10,9 54	28.8/ 48.4	2,50 2	72	27.4	101., 9			X	85	7~7. 5
DTD-41 .1/26.1	41.1	2,83 5.2	53.7 06	10,3 36.2	33.5/ 52.8	2,20 7.3	74	29.4	149. 6			X	89	7~7. 5
DTD-53 .21/33.8	53.2 1	2,42 4	45.5 68	10,5 91.1	37.1/ 58.4	2,42 4	90	27.4	126. 5	p		X	89	7~7. 5
DTD-53 .21/31.4	53.2 1	2,41 0	47.0 65	10,9 43.2	30.2/ 51.2	2,50 4	75.6	27.4	82.3	p		X	89	8 ~ 9
DTD-57 .1/30.7	57.0 8	2,60 4.2	47.0 65	11,7 46.4	29.8/ 55.3	2,68 6.4	80	27.4	82.3	p		X	89	8 ~ 9
	57.0 8	2,53 9.1	47.0 65	11,7 46.4	29/5 3.9	2,68 6.4	78	27.4	82.3			X	89	8 ~ 9
DTD-67 .3/41.22	67.3	2,71 8.4	54	18,7 19.9	30.8 2/50. 34	3,63 4.2	112	32.4	196. 1			X	140	11~ 12
DTD-76 .62/44.8	76.6 2	2,75 6.7	54	23,5 65.3	29.8 5/51. 05	4,13 7.4	123. 5	35.8	193. 1			X	140	11~ 14
DTD-11 8/72	118	2,22 2.2	50.5 08	32,5 57.1	26.8/ 43.9	5,95 9.9	160	34.3	480. 5			X	280	17~ 19
DTD-14 6.5/95	146. 5	2,31 5.7	50.5 08	41,5 75.2	29.8/ 45.8	7,39 9.4	220	35.3	480. 5			X	280	22~ 23
DTD-14 6.5/81.8	146. 5	2,31 5.7	50.5 08	41,5 75.2	29.8/ 53.2	7,39 9.4	220	35.3	480. 5			X	280	22~ 25
DTD-16 8.4/102. 5	168. 4	2,41 2.7	50.5 08	47,7 90.7	29/4 7.7	8,50 5.5	247. 3	35.3	480. 5			X	310	22~ 25
DTD-16 8.4/90	168. 4	2,74 7.8	50.5 08	46,4 62.9	29/5 4.4	8,50 5.5	247. 3	34.3	480. 5			X	310	22~ 25
DTD-15 4.8/88.5	154. 8	3,00 5.6	72.9 78	61,7 13.2	23.5/ 41.2	11,2 97	275	34.3	480. 5			X	404	29~ 30
DTD-15 9/96	154. 8	2,60 4.1	72.9 78	58,8 49.7	21.5/ 35.6	11,6 03	250	31.8	392. 2	p		X	404	29~ 30
DTD-17 3/101	173. 0	2,67 3.3	72.9 78	65,0 54.3	21.4/ 36.6	12,6 25	270	32.4	392. 2			X	404	30~ 33

DTD-18 5/114.1	185. 0	2,54 1	70.1 8	72,9 41.8	22.3/ 36.2	12,9 83	290	35.3	392. 2	X		X	430	34~ 36
DTD-18 5/90	185. 0	3,00 0	70.1 8	70,9 23.6	20.8/ 42.7	12,9 83	270	34.3	392. 2	X		X	430	34~ 36

Product dimensions

DTD: Track device with gearbox

Model	A (ø)	B (ø)	C (ø)	D	E (ø)	F (ø)	G	H	I	J	X	Y
DTD-16	180	160	154	99	150	170	214	40	58	39	10-M10	9-M10
DTD-14.7/7.7	180	160	159	114. 5	150	170	251. 5	40	77	39	8-M10	9-M10
DTD-16.4/11.4	180	160	159	114. 5	150	170	251. 5	40	77	39	8/10/14-M10	8/9/12-M10
DTD-16.4/10.2	180	160	159	114. 5	150	170	251. 5	40	77	39	8/14-M10	8/9/12-M10
DTD-18/10.3	180	160	159	114. 5	150	170	251. 5	40	77	39	14-M10	12-M10
	215	190	160	114. 5	165	192	251. 5	50	67	39	9-M12	9-M12
DTD-16.4/10.4	215	190	188	131. 8	165	192	257. 3	50	55.5	51	9-M12	9-M12
DTD-18/10.1	215	190	188	131. 8	165	192	257. 3	50	55.5	51	9-M12	9-M12
	215	190	188	131. 8	165	192	257. 3	50	55.5	51	9-M12	9-M12
DTD-18/9	212	190	188	128. 8	165	192	298. 3	50	55.5	51	9-M12	9-M12
	232	210	196	120. 3	165	192	257. 3	70	47	51	13-M12	12-M12
DTD-21/11.2	232	204	196	120. 3	165	192	257. 3	72	45	51	9-M12	10-M12
	232	204	196	120. 3	165	192	257. 3	70	47	51	9-M12	10-M12
	232	204	196	120. 3	165	192	257. 3	70	55.5	51	9-M12	10-M12
	255	210	196	124. 1	165	192	272. 1	70	43	51	13-M12	12-M12
DTD-23.04/12.66	255	204	196	120. 3	165	192	257. 3	70	47	51	9-M12	10-M12

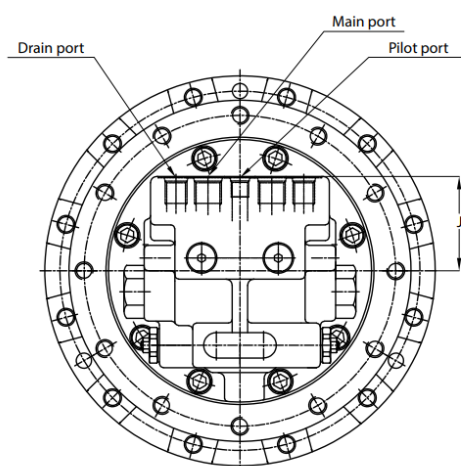
DTD-23.5/14.7	255	204	196	131. 8	165	192	257. 3	50	55.5	51	9-M12	10-M12
DTD-40/20.6	282	250	244	154. 5	210	244	341. 5	68	76	74	12-M14	12-M14
DTD-43.7/23.1	282	250	244	154. 5	210	244	341. 5	68	76	74	12-M14	12-M14
	300	265	244	148, 5	210	250	351, 5	80	74	74	12-M16	12-M14
DTD-46.6/27.5	300	265	244	148. 5	210	250	351. 5	80	74	74	12-M16	12-M14
	300	265	244	148, 5	210	250	345, 5	80	74	74	12-M16	12-M16
DTD-41.1/26.1	300	265	244	150. 5	210	250	347	80	74	74	12-M16	12-M14
DTD-53.21/33. 8	300	265	244	148. 5	210	250	351. 5	80	75	74	12-M16	12-M14
DTD-53.21/31. 37	300	265	261	154. 1	210	250	348. 6	80	72	76	12-M16	12-M14
DTD-57.08/30. 72	300	265	261	154. 1	210	250	348. 6	80	72	76	12-M16	12-M14
DTD-67.3/41.2	364	324	320	204. 1	290	320	399. 6	83	88.5	73	16-M16	15-M16
	364	324	320	202. 1	290	320	397. 6	83	88.5	72	16-M16	15-M16
DTD-76.62/44. 8	364	324	320	193	246	280	396. 5	98.5	81	72	20-M16	18/21-M16
DTD-118/72	440	402	440	250	300	340	515. 5	98.5	123	90	30-M16	30-M16
DTD-168.4/10 2.5	440	402	400	256	300	340	521. 5	98.5	123	90	30-M16	30-M16/30- ø16

Model	Main port	Drain port	Pilot port (Pi)	Ton
DTD-16	2-PF3/8	2-PF1/4	—	1.5T
DTD-14.7/7.7	2-PF3/8	2-PF1/4	PF1/8	1.5T
DTD-16.4/11.4	2-PF3/8	2-PF1/4	PF1/8	1.5T
DTD-16.4/10.2	2-PF3/8	2-PF1/4	PF1/8	1.5T
DTD-18/10.3	2-PF3/8	2-PF1/4	PF1/8	1.5T
	2-PF3/8	2-PF1/4	PF1/8	1.5T
DTD-16.4/10.4	2-PF1/2	2-PF1/4	PF1/4	3.0T
DTD-18/10.1	2-PF1/2	2-PF1/4	PF1/4	3.0T
	2-PF1/2	2-PF1/4	PF1/4	3.0T
DTD-18/9	2-PF1/2	2-PF1/4	PF1/4	3.0T
	2-UNF7/8-14	2-UNF9/16-18	UNF9/16-18	3.0T
DTD-21/11.2	2-PF1/2	2-PF1/4	PF1/4	3.0T
	2-PF1/2	2-PF1/4	PF1/4	3.0T
	2-PF1/2	2-PF1/4	PF1/8	3.0T
	2-PF1/2	2-PF1/4	PF1/4	3.0T
DTD-23.04/12.66	2-PF1/2	2-PF1/4	PF1/4	3.0T

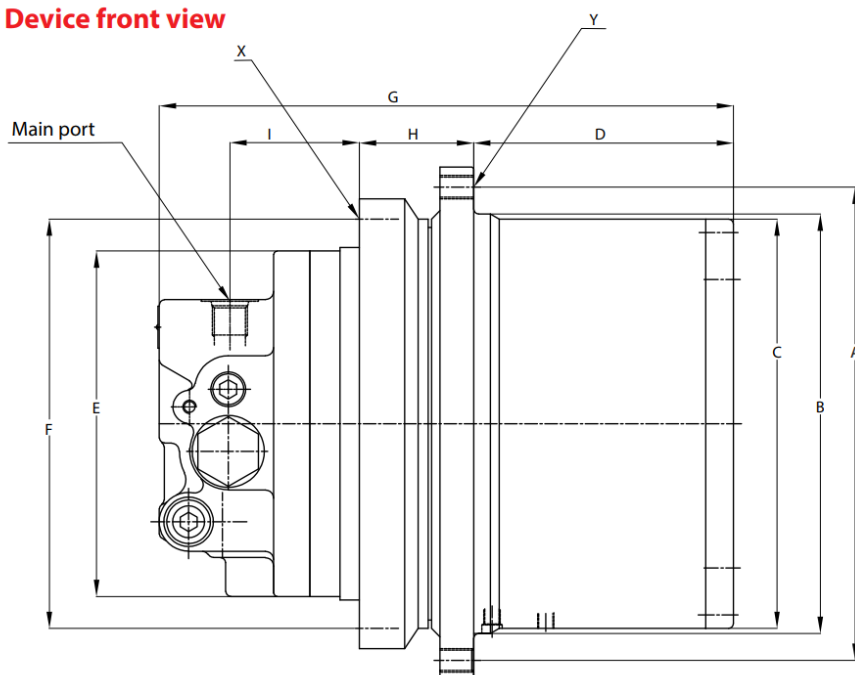
Model	Main port	Drain port	Pilot port (Pi)	Ton
DTD-23.5/14.7	2-PF1/2	2-PF1/4	PF1/4	3.0T
DTD-40/20.6	2-PF1/2	2-PF3/8	PF1/4	5T
DTD-43.7/23.1	2-PF1/2	2-PF3/8	PF1/4	6T
	2-PF1/2	2-PF3/8	PF1/4	6T
DTD-46.6/27.5	2-PF1/2	2-PF3/8	PF1/4	7T
	2-PF1/2	2-PF3/8	PF1/4	7T
DTD-41.1/26.1	2-PF1/2	2-PF3/8	PF1/4	7T
DTD-53.21/33.8	2-PF1/2	2-PF3/8	PF1/4	7T
DTD-53.21/31.37	2-PF1/2	2-PF3/8	PF1/4	8T
DTD-57.08/30.72	2-PF1/2	2-PF3/8	PF1/4	8T
DTD-67.3/41.2	2-UNF1-1/16-12-2B	1-UNF3/4-16-2B	UNF7/16-20-2B	11T
	2-UNF1-1/16-12-2B	1-UNF3/4-16-2B	UNF7/16-20-2B	11T
DTD-76.62/44.8	2-PF3/4	1-PF1/2	PF1/4	14T
DTD-118/72	2-PF1	2-PF1/2	PF1/4	18T
DTD-168.4/102.5	2-PF1	2-PF1/2	PF1/4	25T

Dimensions for:							
DTD-14	DTD-16	DTD-18	DTD-21	DTD-23	DTD-40	DTD-41	DTD-44
DTD-47	DTD-53	DTD-57	DTD-67	DTD-76	DTD-118	DTD-168	

Device top view



Device front view



Model	A (ø)	B (ø)	C (ø)	D	E (ø)	F (ø)	G	H	I	J	X	Y	L	M	Q	K
DTD-146.5/95	440	402	400	250	300	340	515.5	98.5	123	90	30-M16	30-M16	74	52.4	8-M10	26.2
DTD-146.5/81.8	440	402	400	250	300	340	515.5	98.5	123	90	30-M16	30-M16	74	52.4	8-M10	26.2
DTD-168.4/102.5	440	402	400	256	300	340	521.5	98.5	123	90	30-M16	30-M16	74	52.4	8-M10	26.2
DTD-168.4/90	440	402	400	256	300	340	521.5	98.5	123	90	30-M16	30-M16	74	52.4	8-M10	26.2
DTD-154.8/88.5	480	450	444	305	380	440	572.5	102.5	103	165	18-M24	26-M20	75	57.2	8-M12	27.8
DTD-159/96	492	450	440	305	380	425	572.5	102.5	103	165	20-M20	26-ø22	75	57.2	8-M12	27.8
DTD-173/101	492	450	440	305	380	440	572.5	102.5	103	165	18-M24	26-M20	75	57.2	8-M12	27.8
DTD-185/114.13	490	450	369	295.5	380	425	572.5	112	103	165	26-M20	24-M20	75	57.2	8-M12	27.8
	490	450	369	306	380	425	572.5	112	92.5	165	26-M20	28-M20	75	57.2	8-M12	27.8
DTD-185/90	490	450	369	295.5	380	425	572.5	112	103	165	26-M20	24-M20	75	57.2	8-M12	27.8

Model	Main port	Drain port	Pilot port (Pi)	Ton
DTD-146.5/95	2- $\varnothing$ 25	2-PF1/2	PF1/4	22T
DTD-146.5/81.8	2- $\varnothing$ 25	2-PF1/2	PF1/4	25T
DTD-168.4/102.5	2- $\varnothing$ 25	2-PF1/2	PF1/4	25T
DTD-168.4/90	2- $\varnothing$ 25	2-PF1/2	PF1/4	25T
DTD-154.8/88.5	2- $\varnothing$ 25	2-PF1/2	PF1/4	30T
DTD-159/96	2- $\varnothing$ 25	2-PF1/2	PF1/4	30T
DTD-173/101	2- $\varnothing$ 25	2-PF1/2	PF1/4	30T
DTD-185/114.13	2- $\varnothing$ 25	2-PF1/2	PF1/4	36T
	2- $\varnothing$ 25	2-PF1/2	PF1/4	36T
DTD-185/90	2- $\varnothing$ 25	2-PF1/2	PF1/4	36T

Dimensions for:

DTD-147

DTD-155

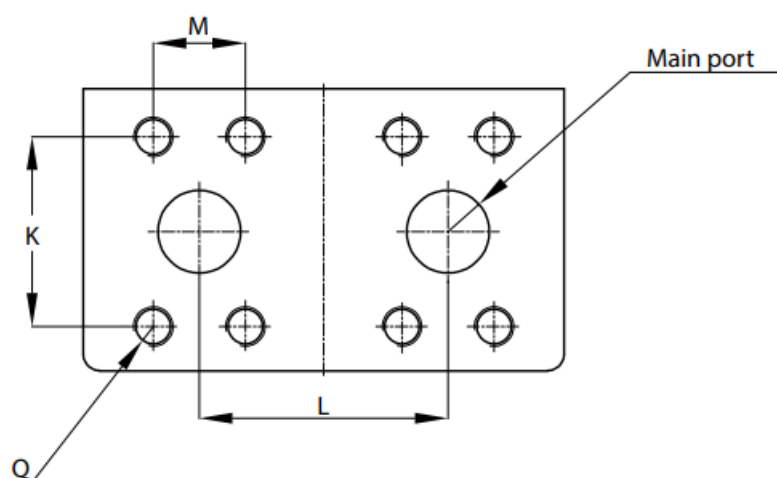
DTD-159

DTD-168

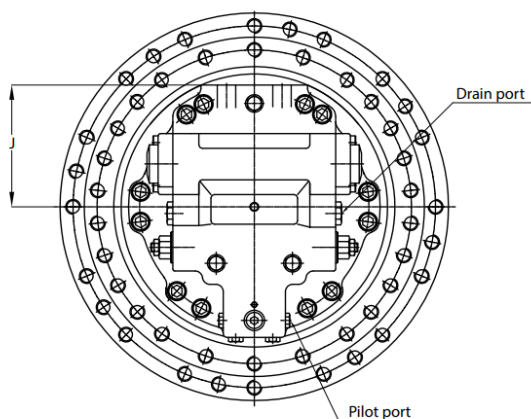
DTD-173

DTD-185

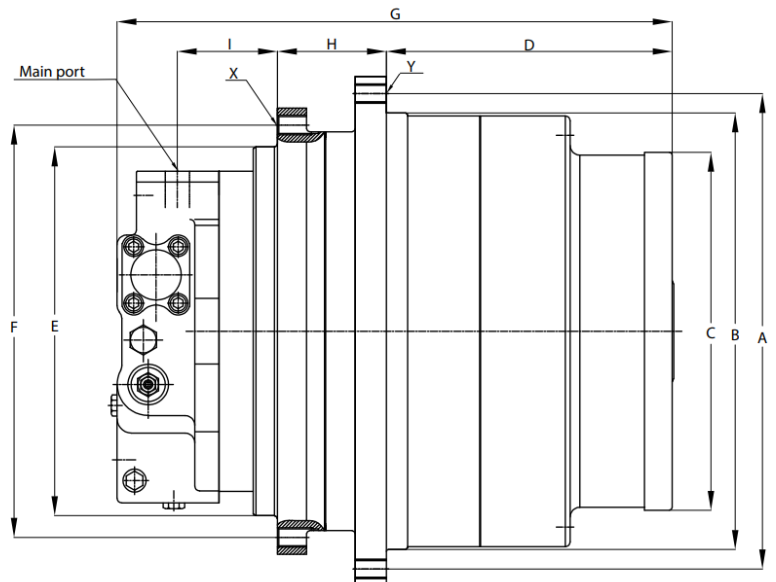
Main port view



Device top view



Device front view



Track drive motors for excavators

Performance • Quality • Innovation

Count on Danfoss's experience to help lead the future of excellent construction equipment. We develop, manufacture, and supply field-proven solutions with 40 years of experience. Providing high-quality and high-performance products backed by deep application knowledge and focus on excavator customers. We transform by market and technology trend and dig in the electrification of excavators. We aim to be leader of excavator components, systems and electrification.

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Documents / Resources

	Danfoss DTD-14.7-7.7 D-Track Two Speed Axial Piston Motor [pdf] Owner's Manual DTD-14.7-7.7 D-Track Two Speed Axial Piston Motor, DTD-14.7-7.7, D-Track Two Speed Axial Piston Motor, Two Speed Axial Piston Motor, Speed Axial Piston Motor, Axial Piston Motor, Pist on Motor
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