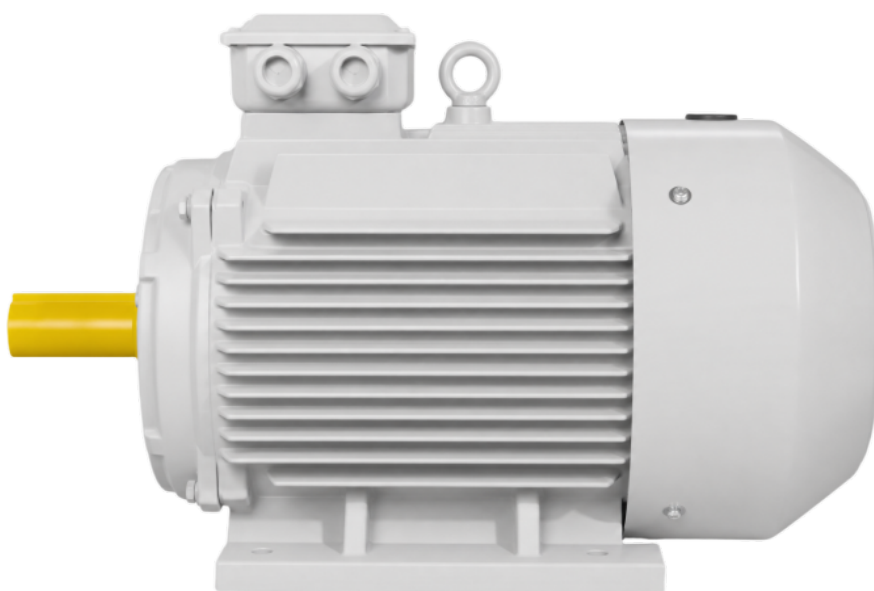


SPECIAL PURPOSE SERIES

YDT

YDT SERIES POLE-CHANGING MULTI-SPEED THREE-PHASE INDUCTION MOTOR FOR FANS AND PUMPS

Single-winding pole-changing motor whose output at each speed is apportioned to the flow-speed law of fans and pumps.

**0.45–160** kW

RATED OUTPUT

H80–H315FRAME CENTRE
HEIGHT**2 / 3**

SPEEDS

Single

WINDING

SERIES

YDT

REVISION

A01

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DESCRIPTION

The YDT series changes speed and output by changing the winding connection, giving stepped speed control. Speed is changed by a single-winding pole-changing method, in two-speed and three-speed versions.

Output at each pole number is apportioned according to the relationship between flow and speed in fans and pumps, which makes the series particularly suited to fans and pumps running continuously against a cyclically varying flow. Energy saving is marked.

TECHNICAL SPECIFICATION

Speed combinations	2/4, 4/6, 4/8 and 6/8 poles
Flange numbers	FF165 to FF600
Altitude	Not exceeding 1,000 m (3,280 ft)
Ambient temperature	-15 °C to +40 °C (5 °F to 104 °F)
Duty type	S1, continuous duty
Mounting arrangements	IM B3 (foot), IM B5 (flange), IM B35 (foot and flange)

MODEL DESIGNATION

The type designation is formed as follows, shown for **YDT 80M1 – 2/4**.

YDT	80	M1	2/4
SERIES	FRAME	LENGTH	POLES
Series code	Frame centre height, mm	Frame length and core length	Pole numbers, high speed / low speed

READING A DESIGNATION

Output columns are given as high speed / low speed.

TYPICAL APPLICATIONS

- Fans and pumps with cyclically varying flow
- Mining
- Metallurgy
- Textiles
- Chemical industry
- Light industry
- Building services where airflow is adjusted seasonally

NOTES

NOT EXPLOSION PROTECTED

This series carries no explosion-protection marking and must not be used in a hazardous area.

RATED DATA

Values are for 50 Hz operation at the rated voltage stated above. Ratings are continuous (duty type S1).

2 POLES — SYNCHRONOUS SPEED 3000 R/MIN, 50 HZ

TYPE	RATED OUTPUT kW	EFFICIENCY %	POWER FACTOR cos φ
YDT80M1-2/4	0.75/0.17	68.0/58.0	0.82/0.62
YDT80M2-2/4	0.95/0.25	70.0/64.0	0.81/0.65
YDT90S-2/4	1.40/0.30	71.0/70.0	0.82/0.72
YDT90L-2/4	1.90/0.40	75.0/72.0	0.86/0.73
YDT100L1-2/4	2.50/0.65	82.0/74.0	0.87/0.72
YDT100L2-2/4	3.10/0.80	82.0/76.0	0.87/0.72
YDT112M-2/4	4.40/1.10	82.0/80.0	0.88/0.74
YDT132S-2/4	5.90/1.40	83.0/80.0	0.91/0.74
YDT132M-2/4	8.00/2.00	85.0/83.0	0.91/0.77
YDT160M-2/4	12.5/2.80	86.0/85.0	0.91/0.75
YDT160L-2/4	16.0/3.80	87.0/86.0	0.91/0.76

4 POLES — SYNCHRONOUS SPEED 1500 R/MIN, 50 HZ

TYPE	RATED OUTPUT kW	EFFICIENCY %	POWER FACTOR cos φ
YDT90S-4/6	1.10/0.32	70.0/63.0	0.78/0.66
YDT90L-4/6	1.40/0.45	72.0/68.0	0.84/0.66
YDT100L1-4/6	2.20/0.70	80.0/73.0	0.79/0.66
YDT100L2-4/6	2.50/0.90	81.0/74.0	0.78/0.67
YDT112M-4/6	3.20/1.10	82.0/78.0	0.82/0.68
YDT132S-4/6	4.70/1.50	84.0/81.0	0.83/0.68
YDT132M-4/6	6.70/2.20	85.0/83.0	0.85/0.69
YDT160M-4/6	9.50/3.10	87.0/83.0	0.84/0.69
YDT160L-4/6	12.0/4.00	88.0/83.0	0.84/0.69
YDT180M-4/6	15.5/5.10	87.0/81.0	0.84/0.72
YDT180L-4/6	18.0/6.20	87.0/81.0	0.85/0.74

4 POLES — SYNCHRONOUS SPEED 1500 R/MIN, 50 HZ (CONTINUED)

TYPE	RATED OUTPUT kW	EFFICIENCY %	POWER FACTOR COS ϕ
YDT200L-4/6	24.0/8.50	88.0/83.0	0.85/0.77
YDT225S-4/6	33.0/11.0	89.0/84.0	0.86/0.84
YDT225M-4/6	38.0/13.0	90.0/85.0	0.860/0.85
YDT250M-4/6	47.0/16.0	90.0/85.0	0.89/0.87
YDT280S-4/6	55.0/18.5	90.0/85.0	0.88/0.86
YDT280M1-4/6	70.0/25.0	91.0/87.0	0.88/0.87
YDT280M2-4/6	84.0/28.0	91.0/87.0	0.88/0.87
YDT315S-4/6	95.0/32.0	91.0/89.0	0.86/0.79
YDT315M-4/6	115/38.0	92.0/90.0	0.86/0.78
YDT315L1-4/6	135/45.0	92.0/90.0	0.86/0.80
YDT315L2-4/6	160/55.0	93.0/91.0	0.86/0.80

4 POLES — SYNCHRONOUS SPEED 1500 R/MIN, 50 HZ

TYPE	RATED OUTPUT kW	EFFICIENCY %	POWER FACTOR COS ϕ
YDT90S-4/8	1.00/0.22	70.0/55.0	0.82/0.62
YDT90L-4/8	1.30/0.30	72.0/58.0	0.82/0.63
YDT100L1-4/8	2.00/0.55	80.0/65.0	0.80/0.61
YDT100L2-4/8	2.40/0.65	80.0/66.0	0.81/0.61
YDT112M-4/8	3.20/0.90	83.0/71.0	0.78/0.59
YDT132S-4/8	4.50/1.10	84.0/75.0	0.82/0.59
YDT132M-4/8	6.30/1.50	85.0/78.0	0.83/0.59
YDT160M-4/8	8.90/2.00	85.0/82.0	0.85/0.67
YDT160L-4/8	12.0/2.70	86.0/84.0	0.86/0.67
YDT180M-4/8	16.0/4.00	88.0/84.0	0.85/0.65
YDT180L-4/8	19.5/5.00	89.0/85.0	0.85/0.66
YDT200L-4/8	29.0/7.50	90.0/87.0	0.85/0.66
YDT225M-4/8	40.0/9.50	91.0/88.0	0.88/0.64
YDT250M-4/8	52.0/14.5	91.0/88.0	0.87/0.66
YDT280S-4/8	65.0/17.0	91.0/89.0	0.87/0.68
YDT280M1-4/8	75.0/18.5	91.0/90.0	0.88/0.70
YDT315S-4/8	92.0/25.0	91.0/90.0	0.86/0.70
YDT315M-4/8	110/30.0	92.0/91.0	0.86/0.70
YDT315L1-4/8	135/36.0	92.0/91.0	0.87/0.70
YDT315L2-4/8	155/41.0	92.0/91.0	0.87/0.71

6 POLES — SYNCHRONOUS SPEED 1000 R/MIN, 50 HZ

TYPE	RATED OUTPUT kW	EFFICIENCY %	POWER FACTOR COS φ
YDT90S-6/8	0.65/0.25	65.0/52.0	0.63/0.58
YDT90L-6/8	0.80/0.35	67.0/56.0	0.62/0.58
YDT100L1-6/8	1.30/0.55	71.0/62.0	0.66/0.58
YDT100L2-6/8	1.60/0.75	74.0/66.0	0.67/0.59
YDT112M-6/8	2.00/0.85	74.0/67.0	0.68/0.69
YDT132S-6/8	2.60/1.20	79.0/73.0	0.71/0.60
YDT132M1-6/8	3.30/1.60	80.0/76.0	0.76/0.60
YDT132M2-6/8	4.50/2.20	82.0/77.0	0.75/0.60
YDT160M-6/8	6.50/3.20	84.0/80.0	0.76/0.61
YDT160L-6/8	9.00/4.50	86.0/82.0	0.77/0.62
YDT180L-6/8	13.0/6.50	86.0/81.0	0.77/0.65
YDT200L1-6/8	17.0/8.50	87.0/82.0	0.80/0.66

MOUNTING ARRANGEMENTS

The series is supplied in the following arrangements to IEC 60034-7. Letters on the drawings are the dimension symbols used in the outline and mounting dimension schedule.

ABOUT THESE DRAWINGS

The drawings show a representative frame for each arrangement and are not to scale. Dimensions for a specific frame size are given in the outline and mounting dimension schedule.

OUTLINE AND MOUNTING DIMENSIONS

Principal dimensions are given below. The complete dimension schedule, including tolerances and flange details, is issued on request.

PRINCIPAL OUTLINE AND MOUNTING DIMENSIONS (MM)

TYPE	FLANGE NUMBER	A	B	H	AB	AC	AD	HD	L
80M	FF165	125	100	80	165	175	150	175	290
90S/90L	FF165	140	100/125	90	180/180	195/195	160/160	195/195	315/340
100L/112M	FF215	160/190	63/140	100/112	205/230	215/240	180/190	245/265	380/400
132S/132M	FF265	216	89/178	132	270/270	275/275	210/210	315/315	475/515
160M/160L	FF300	254	210/254	160	320/320	330/330	265/265	385/385	605/650
180M/180L	FF300	279	241/279	180	355/355	380/380	285/285	430/430	670/710
200L	FF350	318	305	200	395	420	315	475	775
225S/225M	FF400	356	286/311	225	435/435	470/470	345/345	530/530	820/845

PRINCIPAL OUTLINE AND MOUNTING DIMENSIONS (MM) (CONTINUED)

TYPE	FLANGE NUMBER	A	B	H	AB	AC	AD	HD	L
250M	FF500	406	349/368	250	490/550	510/580	385/410	575/640	930/1000
280S/280M	FF500	457	368/419	280	550/550	580/580	410/410	640/640	1000/1050
315S/315M/315L	FF600	508	406/457/508	315	630/630/630	645/645/645	576/576/576	865/865/865	1270/1340

COLUMNS NOT REPRODUCED

The brochure does not print “Noise dB(A)”, “Vibration mm/s” as values grouped over bands of ratings rather than per type. Those figures are available on request and are omitted here rather than shown against the wrong rating.

MANUFACTURER

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