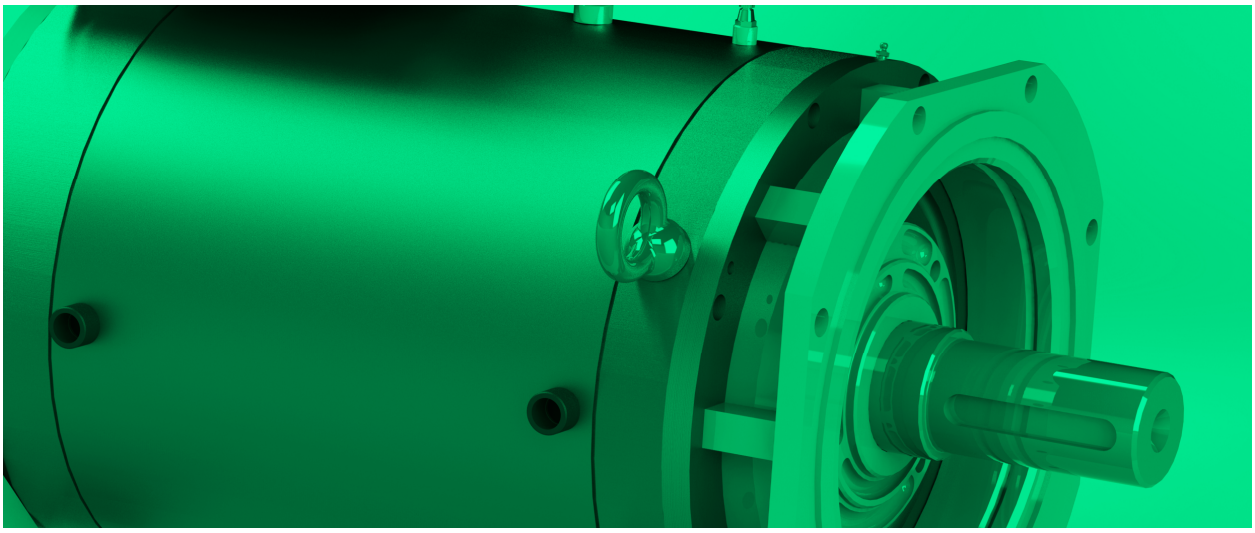
COMER®
Emotion in Motion

HY FLUID SERIES CATALOGUE

PERMANENT MAGNET ASSISTED SYNCHRONOUS RELUCTANCE MOTORS
LIQUID COOLED IP54 IPM-PMASR



COMER s.r.l.
Headquarter, Factory and Sales Department
Italy - 27029 Vigevano (PV)
Via Oroboni, 26/28
Ph. (+39) 0381 42661 Fax (+39) 0381 42662
info@comergroup.it
www.comergroup.it
www.facebook.com/ComerSrl
www.linkedin.com/company/comer-s.r.l./

August 2022

August 2022

OUR HISTORY

COMER is an industrial project set in motion at the end of the 1950's thanks to the creativity and determination of its three founders. Initially we built standard asynchronous motors, while over the years production has been evolving into the more specialized sector of direct current motors, becoming the core business till the mid-1990's.

POWERTECH
With the advent of modern frequency converters, we've begun a new design season that culminated in the POWERTECH series of high performance asynchronous motors. Starting in 2005, our R&D division has investigated and designed the first series of Permanent Magnet Torque motors with a very high number of poles - and synchronous generators to be used in the wind power sector. Later in 2010 was born the High Speed motors series, specifically conceived for rig test application in the automotive sector.

HERITAGE & INNOVATION
Today, many years after its foundation, we are an established Italian leader in the design and production of special asynchronous motors and permanent magnet synchronous motors and generators.

55

1967-2022

COMER high performance asynchronous motors are built according to the highest quality Standards and can be adopted in a wide range of applications. Our motors are provided with squirrel cage rotors with aluminum slots (or copper in the biggest frames). Available in both air and liquid cooling versions.

COMER high performance synchronous motors line is the result of a persistent research in the electromagnetic sector and use of advanced materials. The rotor is provided with permanent rare-earth magnets with outcome of compact and light motors, having extremely high torque and power values. Available in both air and liquid cooling versions.

ISO 9001:2015
The whole production process is controlled inside the factory and certified by ISO 9000 Quality System since 1995, now ISO 9001:2015. At the end of manufacturing process, the motors and generators are tested on computerized test benches, equipped with inverters and energy recovery AFE device: in this way we protect the environment from CO_2 emissions and re-use the excess energy into the Factory needs.

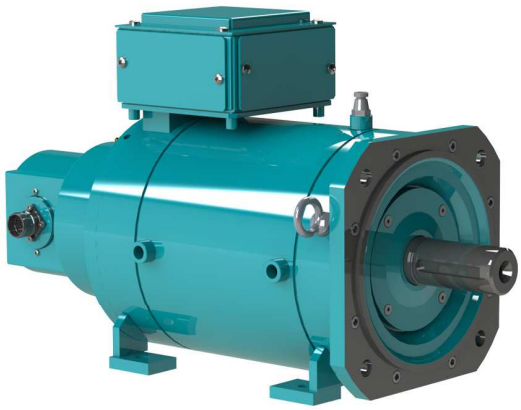
THANK YOU FOR TRUSTING US
THESE FIRST 55 YEARS TOGETHER HAVE BEEN FANTASTIC!

COMER®
Emotion in Motion

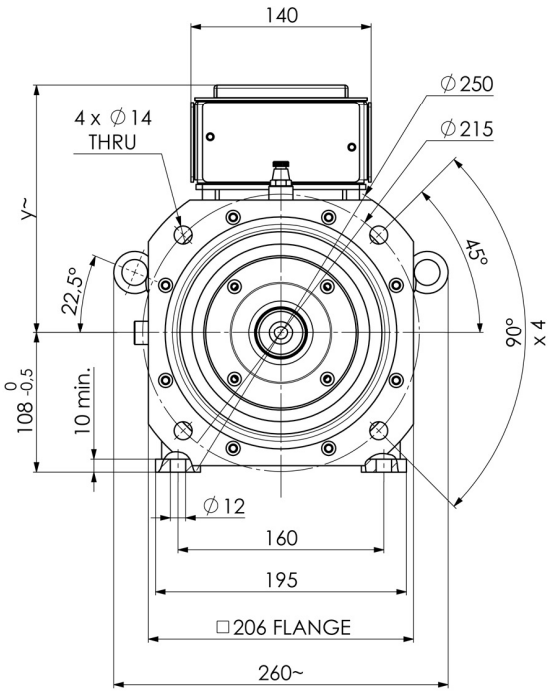
POWERTECH HY6 FLUID 100R

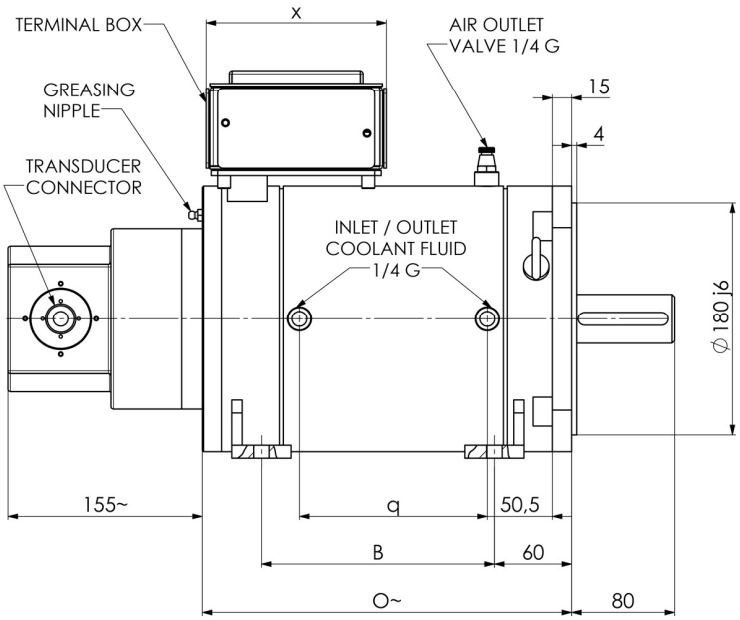
LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

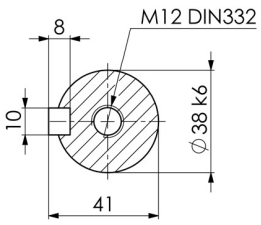
OVERVIEW



IP PROTECTION	IP54 (IP55 on request)
THERMAL PROTECTION TYPE	PT100 (KLIXON, PTC on request)
BALANCING, VIBRATION GRADE (EN 60034-14 / VDE 0530 part 14)	A (B on request)
INSULATION CLASS	F
COOLING METHOD	LIQUID (flowrate by size) 20°C (68°F) WATER + MAX 20% ETHYLENE GLYCOL
Amb. Cond.	0 ÷ 40°C (32 ÷ 104°F) 1000m ASL
TRANSDUCER	ENCODER OR RESOLVER (on request)
MOUNTING FORM	B3, B35, or other on request
BRAKE	up to 95 Nm (on request)
DE BEARING	BALL (ROLLER on request)
NDE BEARING	ROLLER
MAX MECHANICAL SPEED BEMF MUST BE LESS THAN 500Vac	9000 r.p.m. (4500 r.p.m. roller bearing)
PAINTING SYSTEM	NITRO, POLYURETHANIC on request







unit [mm]

VARIABLE DIMENSIONS BY SIZE					
SIZE	B	O	q	x	y
100R.1	181	290	146	140	195
100R.2	231	340	196	200	210
100R.3	281	390	246	200	210
100R.4	331	440	296	200	210
100R.5	381	490	346	200	210

POWERTECH HY6 FLUID 100R

LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

WINDINGS

at 400Vac (PWM>4kHz)

Speed values must be technically compatible with bearings type and applied accessories
A specific electrical protection is needed when maximum speed BEMF>500Vac to avoid high voltage issues due to system failures

HY6 FLUID 100R.1 — J=0,0128Kgm² — Tmax=130Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
340	1000	50,0	65	13,9	6,8	89,0	2450	84	18,0	8,8	1000	12	1,1
345	1700	85,0	63	21,6	11,2	93,0	3600	82	28,0	14,6	1700	12	1,1
370	2500	125,0	60	27,7	15,7	93,5	4200	78	35,5	20,4	2350	12	1,4

HY6 FLUID 100R.2 — J=0,0192Kgm² — Tmax=190Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
345	1000	50,0	98	20,4	10,2	90,0	2200	127	26,3	13,3	1000	12	1,5
360	1700	85,0	94	30,9	16,7	93,0	3000	122	39,8	21,7	1700	12	1,6
370	2500	125,0	90	41,5	23,5	94,0	3900	117	53,5	30,6	2400	12	2,0

HY6 FLUID 100R.3 — J=0,0264Kgm² — Tmax=260Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
335	1000	50,0	135	28,8	14,1	91,0	2600	175	37,6	18,3	1050	12	1,8
340	1700	85,0	130	44,5	23,1	93,5	3500	169	58,1	30,0	1550	12	2,1
355	2500	125,0	124	61,4	32,5	94,0	4200	161	79,0	42,3	2300	12	2,7

HY6 FLUID 100R.4 — J=0,0320Kgm² — Tmax=320Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
340	1000	50,0	172	36,2	18,0	91,0	2500	223	46,8	23,4	1050	14	2,3
345	1700	85,0	166	58,1	29,5	93,0	3600	215	74,0	38,4	1800	14	2,9
370	2500	125,0	160	73,8	41,8	94,0	4000	208	95,0	54,3	2450	14	3,5

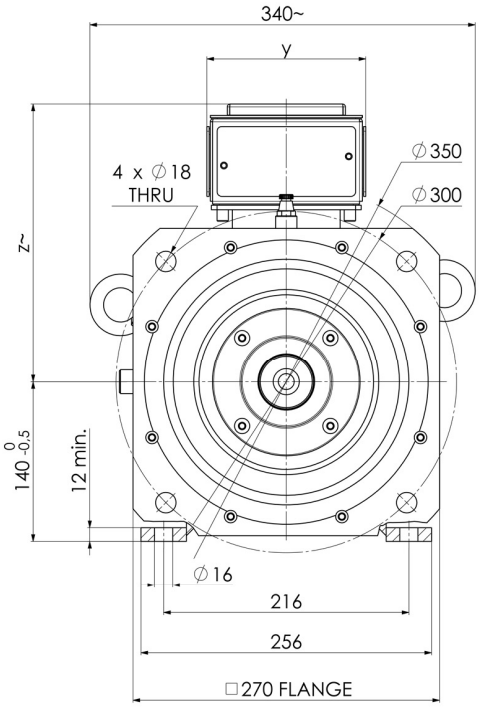
HY6 FLUID 100R.5 — J=0,0384Kgm² — Tmax=390Nm

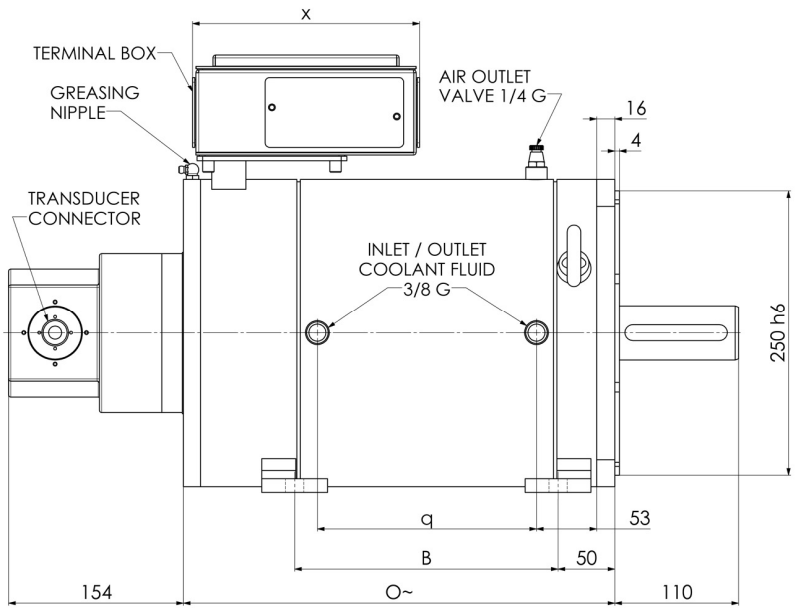
Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
345	1000	50,0	210	43,6	22,0	91,0	2500	273	56,4	28,6	1050	16	2,8
360	1700	85,0	205	67,9	36,4	93,0	3300	266	87,1	47,3	1700	16	3,6
370	2500	125,0	195	90,0	51,0	94,0	3800	253	116	66,3	2500	16	4,2

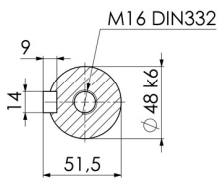
POWERTECH HY8 FLUID 132R
LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

OVERVIEW

IP PROTECTION	IP54 (IP55 on request)
THERMAL PROTECTION TYPE	PT100 (KLIXON, PTC on request)
BALANCING, VIBRATION GRADE (EN 60034-14 / VDE 0530 part 14)	A (B on request)
INSULATION CLASS	F
COOLING METHOD	LIQUID (flowrate by size) 20°C (68°F) WATER + MAX 20% ETHYLENE GLYCOL
Amb. Cond.	0 ÷ 40°C (32 ÷ 104°F) 1000m ASL
TRANSDUCER	ENCODER OR RESOLVER (on request)
MOUNTING FORM	B3, B35, or other on request
BRAKE	up to 300 Nm (on request)
DE BEARING	BALL (ROLLER on request)
NDE BEARING	ROLLER
MAX MECHANICAL SPEED BEMF MUST BE LESS THAN 500Vac	6500 r.p.m. (4000 r.p.m. roller bearing)
PAINTING SYSTEM	NITRO, POLYURETHANIC on request







unit [mm]

VARIABLE DIMENSIONS BY SIZE						
SIZE	B	O	q	x	y	z
132R.1	232	380	193	200	140	245
132R.2	282	430	243	260	190	275
132R.3	332	480	293	260	190	275
132R.4	382	530	343	260	190	275
132R.5	432	580	393	260	190	275

POWERTECH HY8 FLUID 132R

LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

WINDINGS

at 400Vac (PWM>4kHz)

Speed values must be technically compatible with bearings type and applied accessories
A specific electrical protection is needed when maximum speed BEMF>500Vac to avoid high voltage issues due to system failures

HY8 FLUID 132R.1 — J=0,065Kgm² — Tmax=400Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
355	1000	66,7	225	46,0	23,6	92,0	2200	293	60,0	30,7	1000	18	2,8
365	1700	113,3	210	70,0	37,4	94,0	3100	273	90,0	48,6	1650	18	3,1
345	2500	166,7	195	100	51,0	94,5	4000	253	170	66,3	2500	18	3,9

HY8 FLUID 132R.2 — J=0,086Kgm² — Tmax=530Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
350	1000	66,7	300	62,0	31,4	92,0	2500	390	79,7	40,8	1000	18	3,5
385	1700	113,3	285	89,0	50,7	94,5	2800	370	114	65,9	1550	18	3,8
370	2500	166,7	270	127	70,7	95,0	3800	351	163	91,9	2400	18	4,8

HY8 FLUID 132R.3 — J=0,108Kgm² — Tmax=660Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
370	1000	66,7	405	79,4	42,4	92,0	2200	526	102	55,1	950	20	4,8
365	1700	113,3	390	128	69,4	94,5	3200	507	165	90,2	1650	20	5,3
355	2500	166,7	370	183	97,0	95,0	4200	482	236	126	2500	20	6,6

HY8 FLUID 132R.4 — J=0,129Kgm² — Tmax=800Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
355	1000	66,7	490	101	51,3	92,0	2300	637	130	66,7	900	22	5,8
390	1700	113,3	470	146	83,6	94,5	2900	611	188	109	1550	22	6,3
385	2500	166,7	445	201	116	95,5	3900	578	259	151	2300	22	7,1

HY8 FLUID 132R.5 — J=0,151Kgm² — Tmax=930Nm

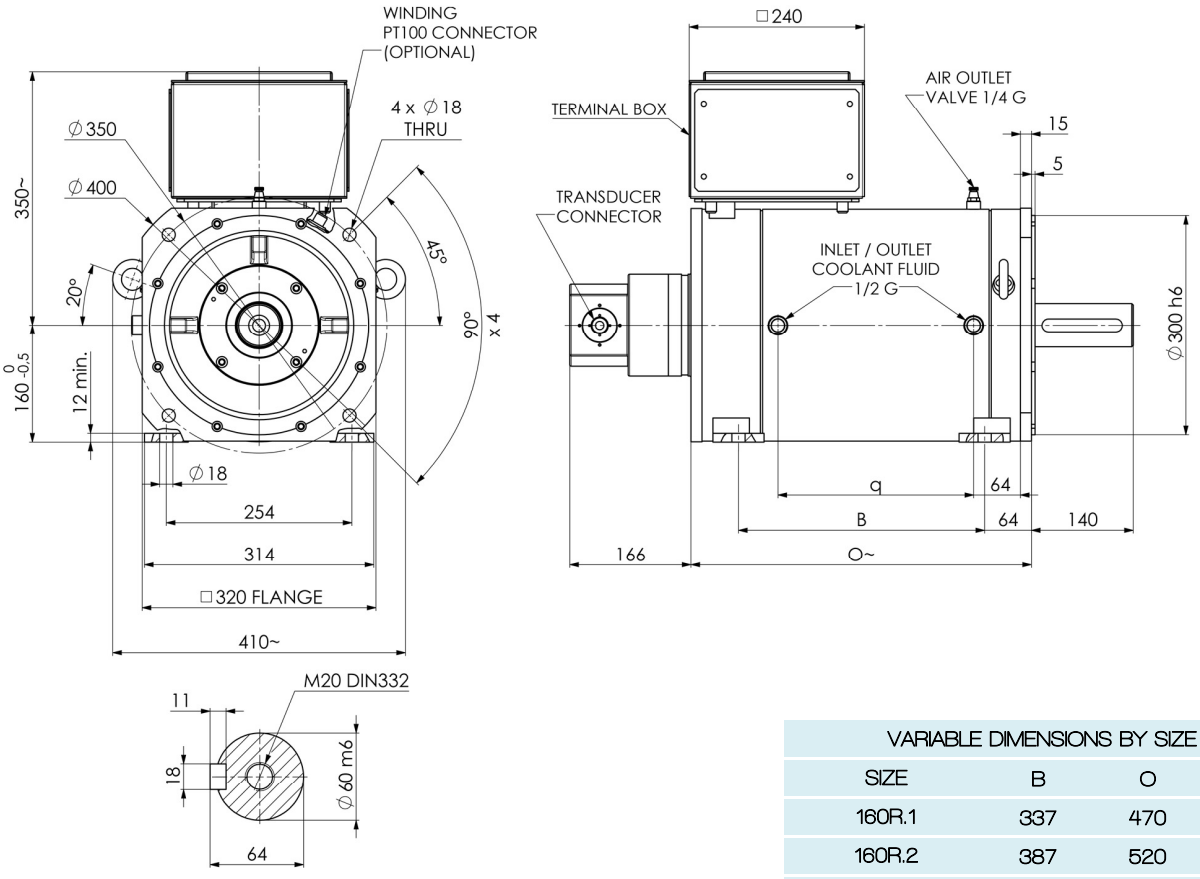
Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
350	1000	66,7	580	123	60,7	92,5	2500	754	159	78,9	1000	24	6,4
370	1700	113,3	555	182	98,8	94,5	3600	722	234	128	1650	24	7,5
370	2500	166,7	530	252	139	95,5	4400	688	324	180	2250	24	8,5

POWERTECH HY8 FLUID 160R

LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

OVERVIEW

IP PROTECTION	IP54 (IP55 on request)
THERMAL PROTECTION TYPE	PT100 (KLIXON, PTC on request)
BALANCING, VIBRATION GRADE (EN 60034-14 / VDE 0530 part 14)	A (B on request)
INSULATION CLASS	F
COOLING METHOD	LIQUID (flowrate by size) 20°C (68°F) WATER + MAX 20% ETHYLENE GLYCOL
Amb. Cond.	0 ÷ 40°C (32 ÷ 104°F) 1000m ASL
TRANSDUCER	ENCODER OR RESOLVER (on request)
MOUNTING FORM	B3, B35, or other on request
BRAKE	up to 400 Nm (on request)
DE BEARING	BALL, ROLLER, INSULATED on request
NDE BEARING	ROLLER (insulated on request)
MAX MECHANICAL SPEED BEMF MUST BE LESS THAN 500Vac	5000 r.p.m. (3500 r.p.m. roller bearing)
PAINTING SYSTEM	NITRO, POLYURETHANIC on request



unit [mm]

VARIABLE DIMENSIONS BY SIZE			
SIZE	B	O	q
160R.1	337	470	268
160R.2	387	520	318
160R.3	437	570	368
160R.4	537	670	468
160R.5	587	720	518

POWERTECH HY8 FLUID 160R

LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

WINDINGS

at 400Vac (PWM>4kHz)

Speed values must be technically compatible with bearings type and applied accessories
A specific electrical protection is needed when maximum speed BEMF>500Vac to avoid high voltage issues due to system failures

HY8 FLUID 160R.1 — J=0,16Kgm² — Tmax=800Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
350	800	53,3	430	68,0	36,0	93,0	1500	560	88,9	46,8	850	20	3,5
385	1500	100,0	410	108	64,4	95,0	2100	535	142	83,7	1450	20	4,4
370	2200	146,7	390	155	90,0	95,5	3000	510	202	117	2150	20	5,5

HY8 FLUID 160R.2 — J=0,20Kgm² — Tmax=1000Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
350	800	53,3	560	88,3	47,0	93,0	1500	730	116	61,1	800	20	4,6
360	1500	100,0	535	150	84,0	95,0	2300	695	197	109	1500	20	5,7
350	2200	146,7	500	211	115	95,5	3300	650	275	150	2300	20	7,1

HY8 FLUID 160R.3 — J=0,25Kgm² — Tmax=1200Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
355	800	53,3	690	106	57,8	93,0	1500	895	141	75,1	800	22	5,7
370	1500	100,0	660	178	104	95,0	2200	860	236	135	1400	22	7,1
370	2200	146,7	625	244	144	95,5	3000	815	325	187	2050	22	8,8

HY8 FLUID 160R.4 — J=0,32Kgm² — Tmax=1600Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
355	800	53,3	950	149	79,6	93,5	1500	1235	196	103	850	24	7,2
355	1500	100,0	910	260	143	95,0	2400	1185	342	186	1550	24	9,8
375	2200	146,7	860	338	198	95,5	3100	1115	442	257	2150	24	12,0

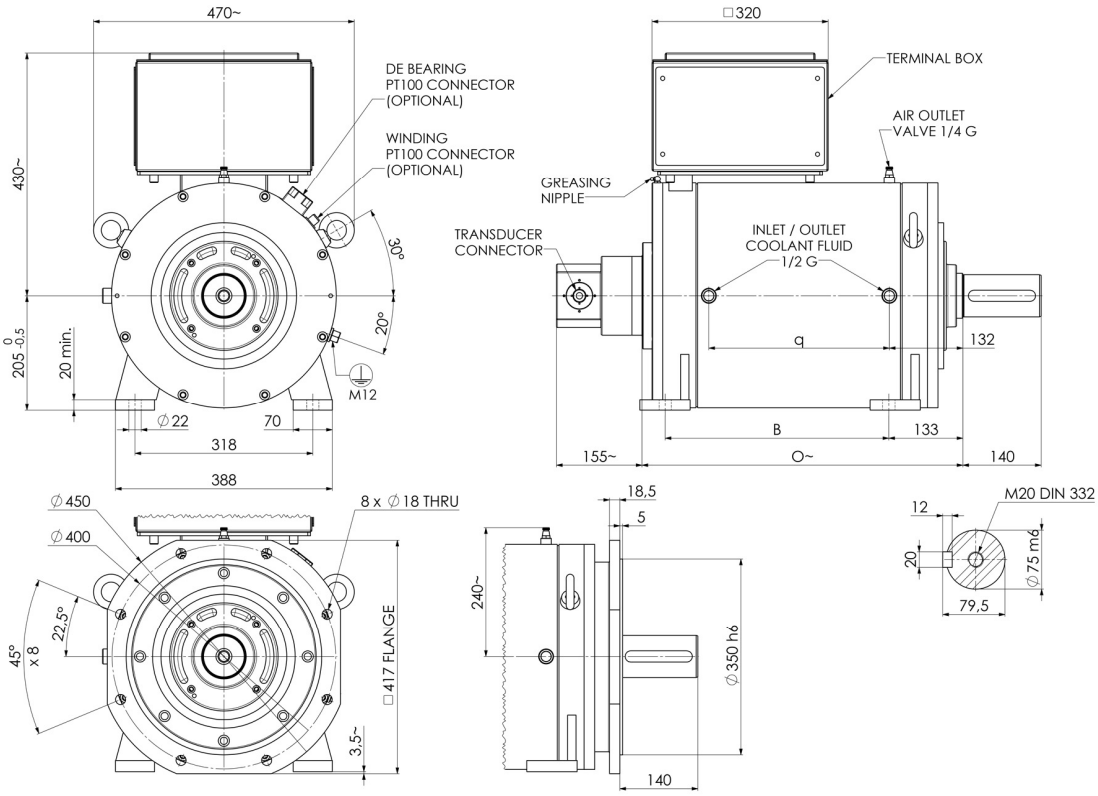
HY8 FLUID 160R.5 — J=0,37Kgm² — Tmax=1800Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
355	800	53,3	1075	167	90,0	93,5	1600	1395	220	117	800	26	8,1
360	1500	100,0	1030	287	162	95,5	2500	1340	380	210	1500	26	10,0
360	2200	146,7	970	386	223	95,5	3300	1260	510	290	2150	26	14,0

POWERTECH HY6 FLUID 200R
LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

OVERVIEW

IP PROTECTION	IP54 (IP55 on request)
THERMAL PROTECTION TYPE	PT100 (KLIXON, PTC on request)
BALANCING, VIBRATION GRADE (EN 60034-14 / VDE 0530 part 14)	A (B on request)
INSULATION CLASS	F
COOLING METHOD	LIQUID (flowrate by size) 20°C (68°F) WATER + MAX 20% ETHYLENE GLYCOL
Amb. Cond.	0 ÷ 40°C (32 ÷ 104°F) 1000m ASL
TRANSDUCER	ENCODER OR RESOLVER (on request)
MOUNTING FORM	B3, B35, or other on request
BRAKE	up to 600 Nm (on request)
DE BEARING	BALL, ROLLER, INSULATED on request
NDE BEARING	ROLLER (insulated on request)
MAX MECHANICAL SPEED BEMF MUST BE LESS THAN 500Vac	4000 r.p.m. (3200 r.p.m. roller bearing)
PAINTING SYSTEM	NITRO, POLYURETHANIC on request



unit [mm]

VARIABLE DIMENSIONS BY SIZE			
SIZE	B	O	q
200R.1	400	575	323
200R.2	450	625	373
200R.3	500	675	423
200R.4	550	725	473
200R.5	650	825	573

POWERTECH HY6 FLUID 200R

LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

WINDINGS

at 400Vac (PWM>4kHz)

Speed values must be technically compatible with bearings type and applied accessories
A specific electrical protection is needed when maximum speed BEMF>500Vac to avoid high voltage issues due to system failures

HY6 FLUID 200R.1

J=0,64Kgm^2 Tmax=1700Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
360	800	40,0	950	150	79,6	92,5	1900	1235	199	103	800	24	8,4
385	1400	70,0	900	227	132	94,5	2300	1170	301	171	1300	24	10,0
375	2000	100,0	835	300	175	94,5	3000	1085	397	227	1950	24	13,0

HY6 FLUID 200R.2

J=0,77Kgm^2 Tmax=2000Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
375	800	40,0	1170	172	98,0	92,5	1800	1520	233	127	850	24	10,0
365	1400	70,0	1110	286	163	94,5	2200	1445	387	212	1400	24	12,0
385	2000	100,0	1040	358	218	95,0	2700	1350	482	283	1850	24	15,0

HY6 FLUID 200R.3

J=0,90Kgm^2 Tmax=2350Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
375	800	40,0	1375	203	115	93,0	1800	1790	275	150	750	26	11,5
370	1400	70,0	1300	329	190	95,0	2200	1690	444	248	1400	26	13,0
375	2000	100,0	1220	434	255	95,5	3000	1585	583	332	1800	26	15,5

HY6 FLUID 200R.4

J=1,02Kgm^2 Tmax=2700Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
355	800	40,0	1580	245	132	93,0	1800	2055	328	172	800	28	13,0
365	1400	70,0	1500	392	220	95,0	2400	1950	518	286	1400	28	15,0
395	2000	100,0	1410	487	295	95,5	2700	1835	637	384	1800	28	18,0

HY6 FLUID 200R.5

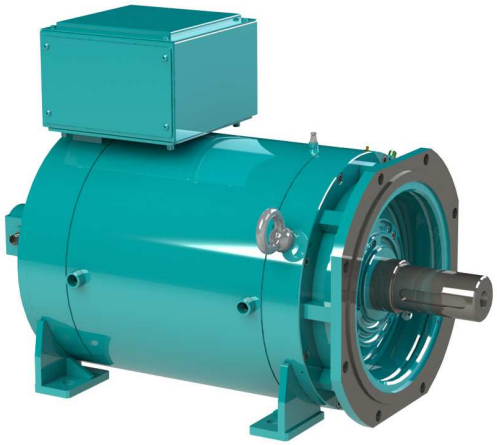
J=1,27Kgm^2 Tmax=3400Nm

Poles: 2p=6			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
370	600	30,0	2070	233	130	92,5	1400	2690	315	169	600	32	13,5
390	1200	60,0	1940	402	244	95,0	2000	2525	545	317	1100	32	16,5
395	1600	80,0	1850	497	310	95,5	2200	2405	681	403	1650	32	21,5

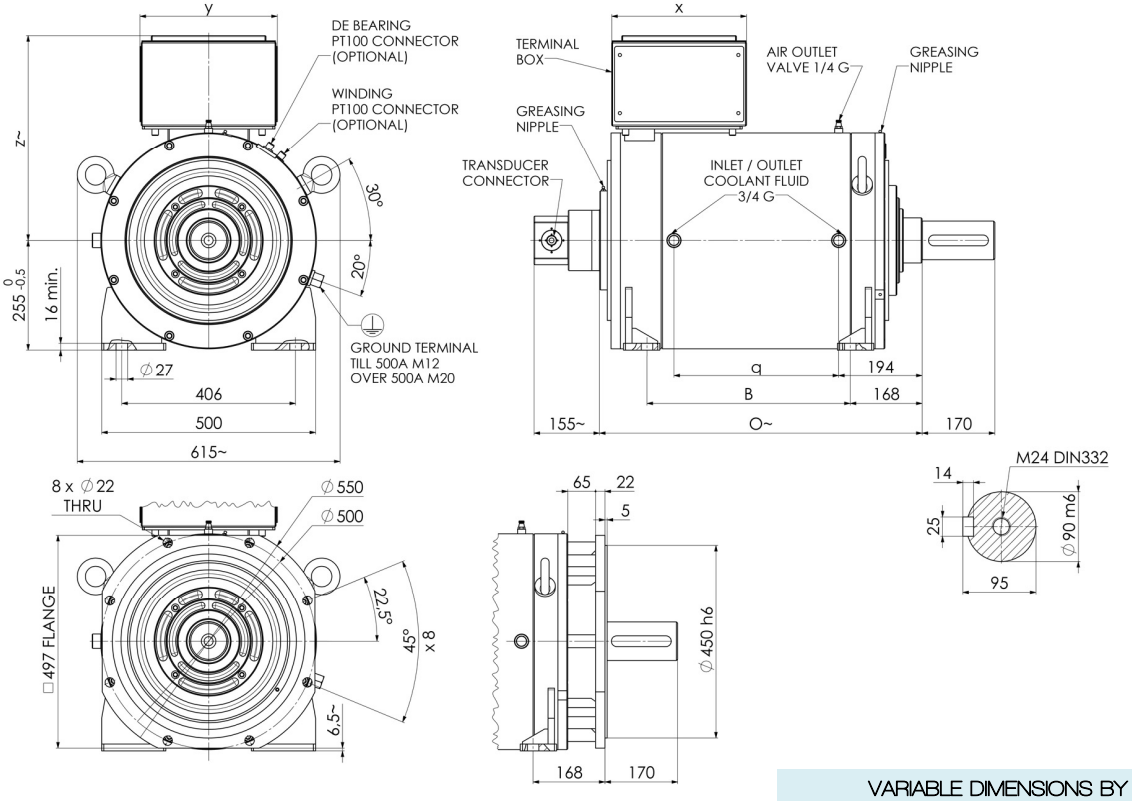
POWERTECH HY8 FLUID 250R

LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

OVERVIEW



IP PROTECTION	IP54 (IP55 on request)
THERMAL PROTECTION TYPE	PT100 (KLIXON, PTC on request)
BALANCING, VIBRATION GRADE (EN 60034-14 / VDE 0530 part 14)	A (B on request)
INSULATION CLASS	F
COOLING METHOD	LIQUID (flowrate by size) 20°C (68°F) WATER + MAX 20% ETHYLENE GLYCOL
Amb. Cond.	0 + 40°C (32 + 104°F) 1000m ASL
TRANSDUCER	ENCODER OR RESOLVER (on request)
MOUNTING FORM	B3, B35, or other on request
BRAKE	up to 2400 Nm (on request)
DE BEARING	BALL (ROLLER on request)
NDE BEARING	ROLLER (insulated on request)
MAX MECHANICAL SPEED BEMF MUST BE LESS THAN 500Vac	3500 r.p.m. (3000 r.p.m. roller bearing)
PAINTING SYSTEM	NITRO, POLYURETHANIC on request



TERMINAL BOX DIMENSIONS			
SIZE	x	y	z
250R.1 and 250R.2	315	320	480
OTHERS	585	395	535

unit [mm]

VARIABLE DIMENSIONS BY SIZE			
SIZE	B	O	q
250R.1	475	755	385
250R.2	525	805	435
250R.3	625	905	535
250R.4	725	1005	635
250R.5	825	1105	735
250R.6	925	1205	835

POWERTECH HY8 FLUID 250R

LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

WINDINGS

at 400Vac (PWM>4kHz)

Speed values must be technically compatible with bearings type and applied accessories
A specific electrical protection is needed when maximum speed BEMF>500Vac to avoid high voltage issues due to system failures

HY8 FLUID 250R.1 — J=1,71Kgm² — Tmax=3300Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters: Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
350	600	40,0	1590	183	100	94,5	1300	2070	243	130	550	32	7,6
360	1200	80,0	1430	313	180	95,5	1900	1860	411	234	1100	32	11,0
390	1800	120,0	1200	358	226	95,5	2200	1560	468	294	1500	32	14,0

HY8 FLUID 250R.2 — J=2,05Kgm² — Tmax=4000Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters: Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
365	600	40,0	1940	215	122	94,5	1200	2525	288	158	550	32	9,2
380	1200	80,0	1735	361	218	95,5	1800	2255	479	283	1050	32	13,5
390	1800	120,0	1460	435	275	95,5	2250	1900	570	358	1500	32	16,5

HY8 FLUID 250R.3 — J=2,73Kgm² — Tmax=5200Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters: Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
375	600	40,0	2705	293	170	95,0	1200	3515	393	221	550	36	11,5
360	1200	80,0	2400	525	302	96,0	2000	3120	700	392	1150	36	16,5
365	1800	120,0	2050	656	386	96,0	2650	2665	866	502	1650	36	20,5

HY8 FLUID 250R.4 — J=3,41Kgm² — Tmax=6600Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters: Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
375	600	40,0	3470	375	218	95,0	1300	4510	500	283	550	40	15,0
360	1200	80,0	3050	669	383	96,0	1900	3965	888	498	1150	40	20,5
390	1800	120,0	2600	772	490	96,5	2300	3380	1017	637	1550	40	23,0

HY8 FLUID 250R.5 — J=4,1Kgm² — Tmax=8000Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters: Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
390	600	40,0	4250	439	267	95,0	1150	5525	593	347	550	45	18,5
370	1200	80,0	3700	783	465	96,0	1900	4810	1035	604	1100	45	25,0
360	1800	120,0	3150	1016	594	96,5	2500	4095	1330	772	1650	45	28,0

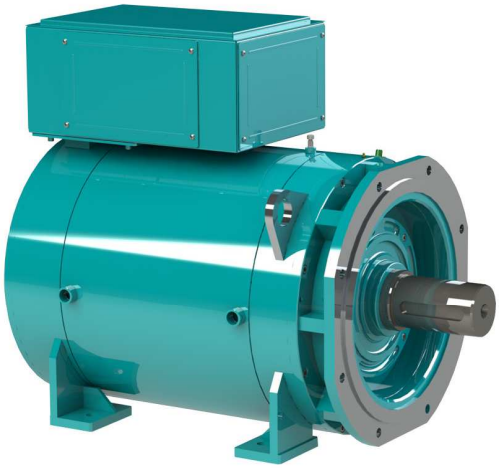
HY8 FLUID 250R.6 — J=4,78Kgm² — Tmax=9000Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters: Water + max 20% Ethylene Glycol T in=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
395	600	40,0	5000	517	314	95,0	1150	6500	697	408	500	50	21,5
375	1200	80,0	4400	917	553	96,0	1800	5720	1220	719	1100	50	30,0
360	1800	120,0	3715	1190	700	96,5	2650	4830	1565	910	1600	50	33,0

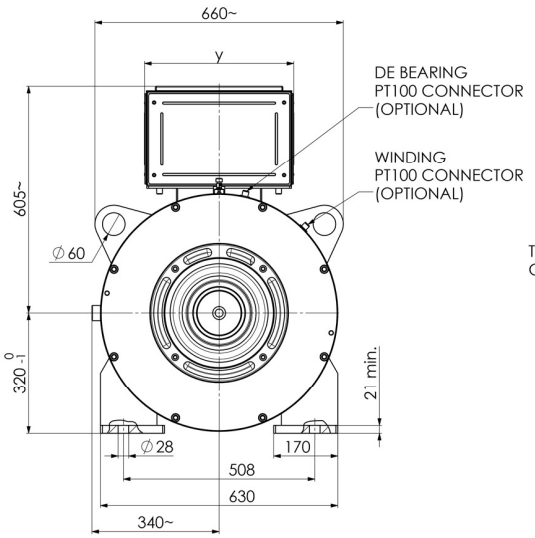
POWERTECH HY8 FLUID 315R

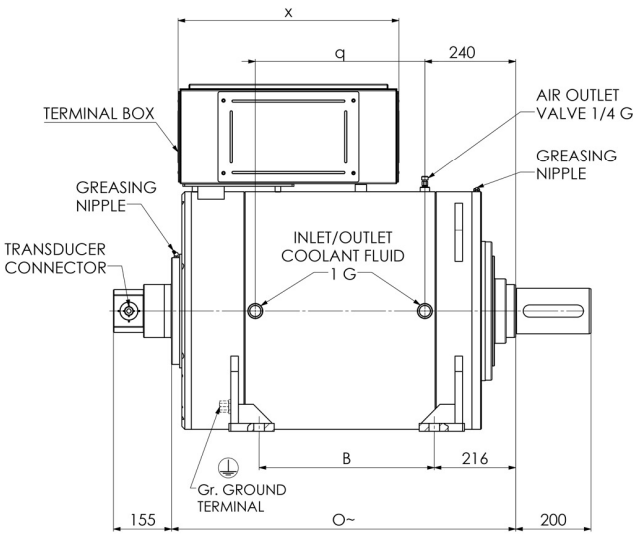
LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

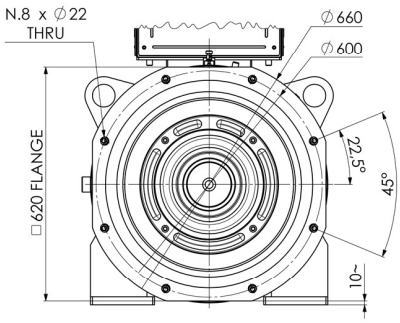
OVERVIEW

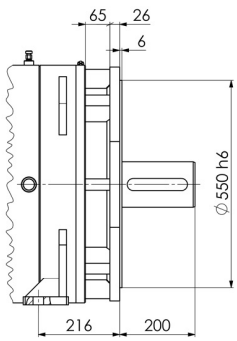


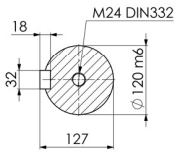
IP PROTECTION	IP54 (IP55 on request)
THERMAL PROTECTION TYPE	PT100 (KLIXON, PTC on request)
BALANCING, VIBRATION GRADE (EN 60034-14 / VDE 0530 part 14)	A (B on request)
INSULATION CLASS	F
COOLING METHOD	LIQUID (flowrate by size) 20°C (68°F) WATER + MAX 20% ETHYLENE GLYCOL
Amb. Cond.	0 + 40°C (32 + 104°F) 1000m ASL
TRANSDUCER	ENCODER OR RESOLVER (on request)
MOUNTING FORM	B3, B35, or other on request
BRAKE	up to 2500 Nm (on request)
DE BEARING	BALL (ROLLER on request)
NDE BEARING	ROLLER (INSULATED)
MAX MECHANICAL SPEED BEMF MUST BE LESS THAN 500Vac	3200 r.p.m. (2400 r.p.m. roller bearing)
PAINTING SYSTEM	NITRO, POLYURETHANIC on request











TERMINAL BOX DIMENSIONS				
MOTOR CURRENT	x	y	Gr.	
TILL 1500 A	585	395	M20	
OVER 1500 A	645	534	M24	unit [mm]

VARIABLE DIMENSIONS BY SIZE			
SIZE	B	O	q
315R.1	465	915	450
315R.2	565	1015	550
315R.3	665	1115	650
315R.4	765	1215	750
315R.5	865	1315	850
315R.6	965	1415	950

POWERTECH HY8 FLUID 315R

LIQUID COOLED IP54 IPM-PMASR SYNCHRONOUS MOTORS

WINDINGS

at 400Vac (PWM>4kHz)

Speed values must be technically compatible with bearings type and applied accessories
A specific electrical protection is needed when maximum speed BEMF>500Vac to avoid high voltage issues due to system failures

HY8 FLUID 315R.1

J=4,83Kgm^2 Tmax=7000Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
370	600	40,0	3250	355	204	95,0	1150	4225	464	265	550	38	14,0
395	1200	80,0	2820	567	354	96,0	1800	3665	742	461	1000	38	19,0
385	1800	120,0	2335	713	440	96,0	2250	3035	925	572	1550	38	24,0

HY8 FLUID 315R.2

J=6,44Kgm^2 Tmax=9300Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
360	600	40,0	4510	506	283	95,5	1300	5865	669	368	550	38	17,5
350	1200	80,0	3900	888	490	96,0	1900	5070	1156	637	1150	38	26,5
380	1800	120,0	3185	975	600	96,0	2100	4140	1258	780	1550	38	32,5

HY8 FLUID 315R.3

J=8,1Kgm^2 Tmax=11500Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
395	600	40,0	5800	596	364	95,5	1100	7540	796	474	500	42	22,5
380	1200	80,0	5030	1052	632	96,0	1700	6540	1377	822	1050	42	34,0
365	1800	120,0	4050	1287	763	96,0	2250	5265	1665	992	1600	42	41,5

HY8 FLUID 315R.4

J=9,65Kgm^2 Tmax=14000Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
340	600	40,0	7085	850	445	95,5	1450	9210	1126	579	600	48	27,5
395	1200	80,0	6100	1233	766	96,0	1600	7930	1610	996	1050	48	41,5
380	1800	120,0	4900	1500	923	96,0	2200	6370	1955	1200	1550	48	50,0

HY8 FLUID 315R.5

J=10,3Kgm^2 Tmax=16300Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
370	600	40,0	8360	930	525	95,5	1300	10870	1233	683	550	54	32,0
355	1200	80,0	7200	1612	905	96,5	1800	9360	2113	1176	1150	54	42,5
385	1800	120,0	5730	1740	1080	96,5	2100	7450	2284	1404	1550	54	51,0

HY8 FLUID 315R.6

J=11,7Kgm^2 Tmax=18600Nm

Poles: 2p=8			DUTY S1					DUTY S6/40%				Fluid circuit parameters Water + max 20% Ethylene Glycol T_{in}=20°C (68°F)	
Voltage	Speed	Freq.	Tn	In	Pn	Eff.	Max speed at Pn	Tol	Iol	Pol	Max speed at Tmax	Flow Rate	Suggested Chiller min. Diss. Power
V	RPM	HZ	Nm	A	kW	%	RPM	Nm	A	kW	RPM	L /min	kW
365	600	40,0	9550	1078	600	95,5	1400	12415	1438	780	550	60	36,5
350	1200	80,0	8280	1875	1040	96,5	1800	10765	2475	1352	1150	60	49,0
390	1600	106,7	7160	1889	1200	96,5	2000	8900	2422	1491	1400	60	56,5

NOTES

COMER®
Emotion in Motion

NOTES

COMER®
Emotion in Motion

NOTES

COMER®
Emotion in Motion

NOTICE

Data, technical features, drawings, images are only as estimates and can be modified at any time and without previous notice. COMER declines any responsibility for direct and indirect damage that can be caused by possible mistakes in this catalogue. COMER reserves the right to modify at any time and without previous notice the data, drawings, electric and/or mechanic details, dimensions and images. All information in this catalogue are COMER's property, therefore their reproduction (total and partial), copying and disclosure are prohibited, unless expressly authorized.

AVVISO

Dati, prestazioni, disegni e immagini sono indicativi e possono essere modificati in qualsiasi momento senza preavviso. COMER declina ogni responsabilità per danni diretti o indiretti causati da eventuali errori nel presente catalogo. COMER si riserva il diritto di modificare in qualsiasi momento e senza preavviso i dati, i disegni, caratteristiche elettriche e/o meccaniche, le dimensioni e le immagini. Tutte le informazioni contenute in questo catalogo sono di proprietà COMER, sono vietate riproduzione (totale e parziale), copia e divulgazione se non espressamente autorizzate.

COMER s.r.l.
Headquarter, Factory and Sales Department
Italy - 27029 Vigevano (PV)
Via Oroboni, 26/28
Ph. (+39) 0381 42661 Fax (+39) 0381 42662
info@comergroup.it
www.comergroup.it
www.facebook.com/ComerSrl
www.linkedin.com/company/comer-s.r.l./

COMER®
Emotion in Motion

August 2022

August 2022