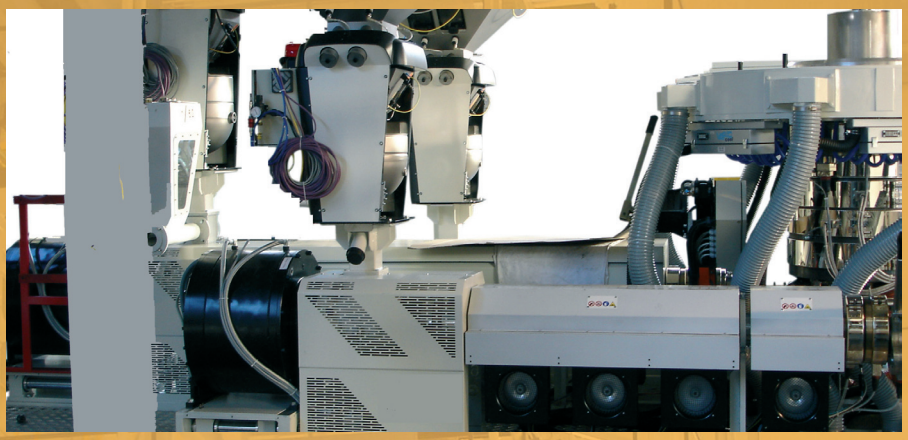
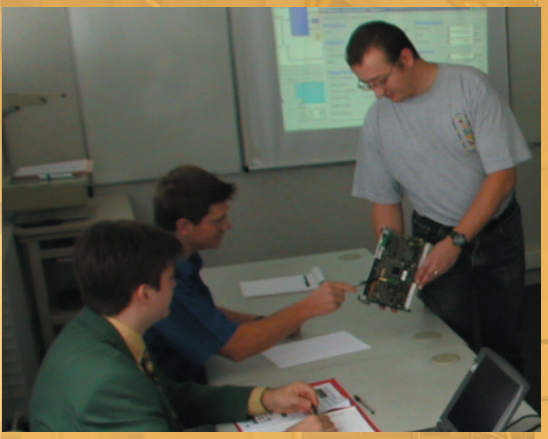




TM Series

Torque Motors for Extruders

SSD PARVEX

Driven by **experience**, **knowledge** and **strength**

Parker

Extruder Revamping

Direct current or asynchronous motor with gearbox

DISADVANTAGES

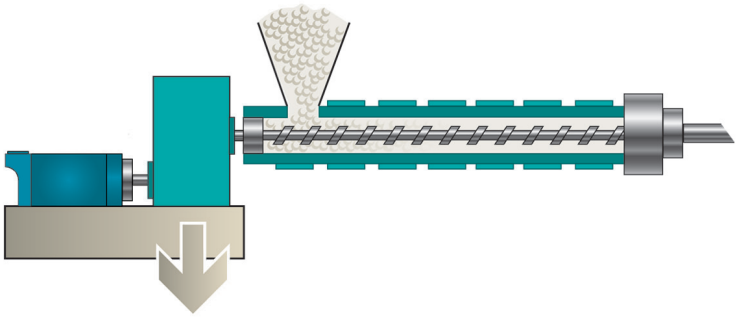
DC Motor maintenance ☹

Gearbox maintenance ☹

High energy consumption ☹

Important dimensions ☹

Noisy solution ☹



Parker torque motor WITHOUT gearbox

AVANTAGES

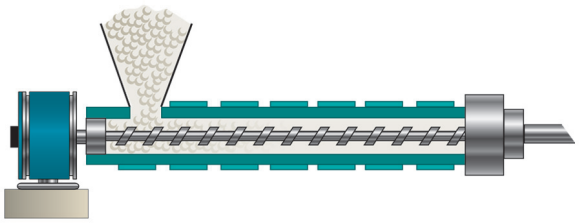
No maintenance ☺

No gearbox ☺

Reduced energy consumption (by about 5 %) ☺

Silent operation (European Directive 2003/10/CE) ☺

Increased compactness ☺



☞ **The torque motor is installed instead of an existant motor and gearbox set** and let you benefit from an energy saving of about 5%

Example of energy savings

The elimination of the gearbox has an immediate impact on the overall installation's efficiency, resulting in energy savings.

Example :

100 kW extruder, 7200h annual operating
Energy cost: 0,05 €/kWh
Overall efficiency improvement due to the installation of a Torque Motor: 5%

☞ Annual savings 1800 €

☞ **-1800 €/year** for a 100kW extruder

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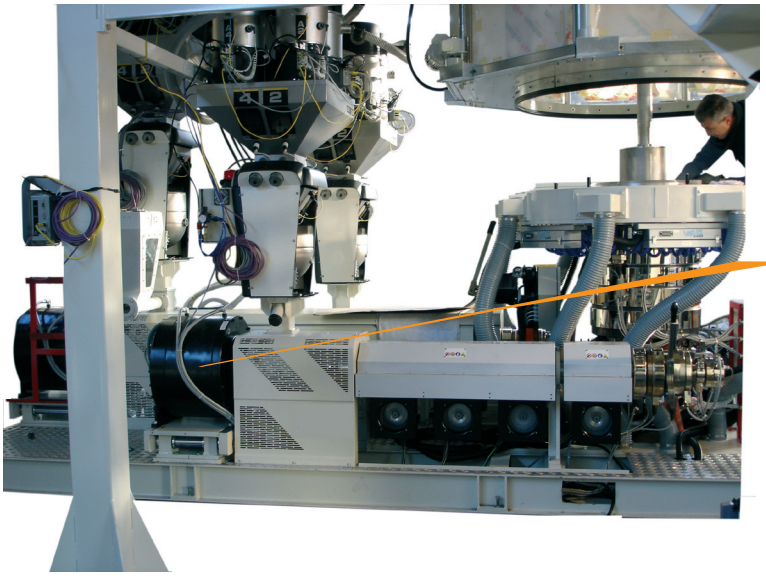
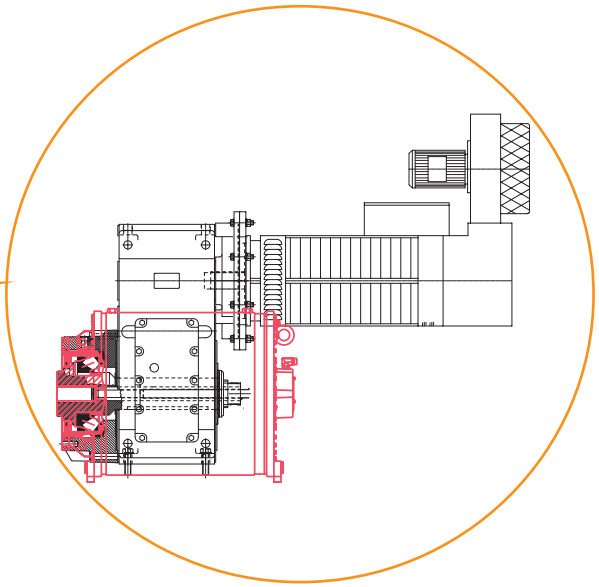
Parker SSD Parvex's offer





Parker SSD Parvex has developed a complete range of motors and drives for extruders revamping applications, associated with dedicated services.

➢ TMW / TMA Torque Motors serie

This serie of torque motors offers standard characteristics for extrusion applications: thrust bearing...

These motors are available in two versions:
- air cooled, by natural convection without fan
- water cooled, for an increased compactness, up to 800 kW

➢ AC890PX Extruder drives range

Parker SSD Parvex especially designed AC890PX drive range for extrusion applications ranging from 50 to 400 kW

Extremely compact and robust, the AC890PX drive monitors your extruder, and can generate operator alarms in case of default, for example when the motor overheats. Thus, the extinction of your complete production line can be avoided.

➢ Assistance at startup

Parker SSD Parvex engineers are at your disposal for any assistance you might need in the startup of your new installation.

Torque Motors TMW-TMA

635 to 22000N.m

DESCRIPTION

The torque motor is a permanent magnets brushless motor, optimized to operate at low speeds. It is particularly suitable for direct drive applications requiring high torque capabilities at low speeds.
Torque motor can replace favourably asynchronous or direct current motors with gearbox.
The obtained system is more compact, less noisy and does not require any maintenance.

This system offers many advantages:

- **No more gearbox**
- **No more maintenance:** all the maintenance which comes along with the gearbox disapears: draining, joints replacement... Furthermore, as it is based on a brushless technology, the torque motor does not require any maintenance.
- **Better speed regulation:** as a servosystem, the torque motor offers exceptional dynamic performances, resulting in a more accurate speed regulation and a better extrusion quality.
- **Increased compactness**
- **Silent operation**
- **Energy savings**

No more gearbox
No maintenance
Energy Savings
Silent Operation (European Directive 2003/20/CE)
Better Speed Regulation
Increased Compactness

TECHNICAL CHARACTERISTICS

Specifications	
Terminal box	Standard Out wires in option
Extrusion thrust	Standard
Cooling	Air cooled: by natural convection, without fan (up to 3900Nm) Water with anticorrosive (heating : 10K)
Motor Protection	IP55
Balancing	R Degree
Insulation	Class H
Thermal Protection	KTY - PTC Option
Encoder	Sincos Other encoder on request
Mounting	Flange Option: Feet
Hollow shaft	Standard

Parker Torque Motor is available in two versions:

- TMW serie, extremely compact, water cooled
- TMA serie, air cooled by natural convection, without fan

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TMA Series - Air cooling without fan

TMA 360

Type	Mn (Nm)	Nm (rpm)	Pn (kW)	Mmax (Nm)	In (Arms)	Vn (Vrms)	F PWM (kHz)
TMA 360-100	194	50	1	477	2	359	2
TMA 360-100	188	100	2	461	4	357	2
TMA 360-100	166	200	3	407	6	358	2
TMA 360-150	261	50	1	637	3	361	2
TMA 360-150	245	100	3	603	5	356	2
TMA 360-150	211	200	4	517	8	358	2
TMA 360-200	330	50	2	810	4	360	2
TMA 360-200	306	100	3	752	6	357	2
TMA 360-200	282	150	4	692	8	355	2
TMA 360-200	246	200	5	601	9	350	2
TMA 360-250	386	50	2	946	4	361	2
TMA 360-250	371	100	4	912	7	353	2
TMA 360-250	328	150	5	803	9	353	2
TMA 360-250	273	200	6	667	10	346	2
TMA 360-300	457	50	2	1120	5	359	2
TMA 360-300	414	100	4	1016	8	357	2
TMA 360-300	365	150	6	895	10	351	2
TMA 360-300	299	200	6	729	11	353	2
TMA 360-350	511	50	3	1251	5	359	2
TMA 360-350	467	100	5	1146	9	358	2
TMA 360-350	409	150	6	1001	12	354	2
TMA 360-350	314	200	7	763	12	358	2
TMA 360-400	562	50	3	1378	6	355	2
TMA 360-400	512	100	5	1256	10	354	2
TMA 360-400	443	150	7	1083	12	357	2
TMA 360-400	389	175	7	948	13	342	2
TMA 360-400	332	200	7	806	13	348	2

See drawings page 11

Other speeds are available : Please consult us

Data subject to change

TMA Series - Air cooling without fan

TMA 533

Type	Mn (Nm)	Nm (rpm)	Pn (kW)	Mmax (Nm)	In (Arms)	Vn (Vrms)	F PWM (kHz)
TMA 533-100	499	75	4	1229	7	355	2
TMA 533-100	493	100	5	1213	10	353	2
TMA 533-100	430	150	7	1055	12	354	2
TMA 533-100	348	200	7	849	13	352	4
TMA 533-150	688	75	5	1692	10	352	2
TMA 533-150	630	100	7	1547	12	354	2
TMA 533-150	586	125	8	1442	16	300	2
TMA 533-150	522	150	8	1280	17	307	2
TMA 533-150	436	175	8	1064	16	311	4
TMA 533-200	876	50	5	2153	9	353	2
TMA 533-200	811	75	6	1993	12	353	2
TMA 533-200	768	100	8	1883	15	353	2
TMA 533-200	676	125	9	1660	19	300	2
TMA 533-200	552	150	9	1347	18	305	2
TMA 533-250	1038	50	5	2553	10	352	2
TMA 533-250	944	75	7	2317	14	354	2
TMA 533-250	853	100	9	2090	16	352	2
TMA 533-250	743	125	10	1820	21	300	2
TMA 533-250	558	150	9	1357	19	302	2
TMA 533-300	1270	25	3	3151	13	199	2
TMA 533-300	1172	50	6	2899	17	246	2
TMA 533-300	1085	75	9	2677	20	273	2
TMA 533-300	952	100	10	2340	22	285	2
TMA 533-300	784	125	10	1918	22	295	2
TMA 533-400	1577	25	4	3913	16	197	2
TMA 533-400	1487	50	8	3676	21	246	2
TMA 533-400	1312	75	10	3234	25	269	2
TMA 533-400	1105	100	12	2710	26	283	2
TMA 533-40	835	125	11	2030	24	297	2
TMA 533-500	1939	20	4	4776	11	293	2
TMA 533-500	1814	40	8	4474	18	288	2
TMA 533-500	1678	60	11	4132	24	286	2
TMA 533-500	1463	80	12	3594	27	286	2
TMA 533-500	1247	100	13	3051	29	289	2

See drawings page 11

Other speeds are available :please consult us

Data subject to change

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TMA 762

Type	Mn (Nm)	Nm (rpm)	Pn (kW)	Mmax (Nm)	In (Arms)	Vn (Vrms)	F PWM (kHz)
TMA 762-100	1214	40	5	2992	10	359	2
TMA 762-100	1144	80	10	2813	17	357	2
TMA 762-100	961	120	12	2358	21	355	4
TMA 762-100	860	140	13	2103	22	357	4
TMA 762-100	746	160	12	1818	22	354	4
TMA 762-150	1591	40	7	3913	13	358	2
TMA 762-150	1532	60	10	3768	17	358	2
TMA 762-150	1431	80	12	3517	21	356	2
TMA 762-150	1117	120	14	2731	25	356	4
TMA 762-150	884	140	13	2147	23	353	4
TMA 762-200	2014	40	8	4956	16	357	2
TMA 762-200	1849	60	12	4546	21	357	2
TMA 762-200	1678	80	14	4116	25	358	2
TMA 762-200	1416	100	15	3462	26	354	2
TMA 762-200	1141	120	14	2774	26	353	4
TMA 762-300	2862	20	6	7021	12	359	2
TMA 762-300	2688	40	11	6608	21	357	2
TMA 762-300	2377	60	15	5835	27	355	2
TMA 762-300	2037	80	17	4981	30	358	2
TMA 762-300	1559	100	16	3788	30	349	2
TMA 762-400	3558	20	7	8730	15	357	2
TMA 762-400	3279	40	14	8058	25	356	2
TMA 762-400	2806	60	18	6875	31	356	2
TMA 762-400	2272	80	19	5538	34	356	2
TMA 762-400	1894	90	18	4592	32	353	2
TMA 762-500	4096	20	9	10041	17	360	2
TMA 762-500	3754	40	16	9212	29	357	2
TMA 762-500	3194	60	20	7812	36	357	2
TMA 762-500	2822	70	21	6882	37	358	2
TMA 762-500	2350	80	20	5700	35	357	2

See drawings page 11

Other speeds are available :please consult us

Data subject to change

TMW Series - Water cooling

TMW 360

Type	Mn (Nm)	Nn (rpm)	Pn (kW)	Mmax (Nm)	In (Arms)	Vn (Vrms)	F PWM (kHz)	Flow (L/min)
TMW 360-100	592	100	6,2	968	16	358	2	4,4
TMW 360-100	596	150	9,4	968	22	356	2	4,4
TMW 360-100	594	200	12	968	27	358	2	4,5
TMW 360-150	942	100	10	1453	25	355	2	6,6
TMW 360-150	931	150	15	1453	34	358	2	6,7
TMW 360-150	942	200	20	1453	44	354	2	6,8
TMW 360-200	1286	100	13	1937	35	354	2	8,9
TMW 360-200	1269	150	20	1937	47	356	2	8,9
TMW 360-200	1278	200	27	1937	61	349	2	9,0
TMW 360-250	1641	100	17	2421	44	353	2	11,1
TMW 360-250	1610	150	25	2421	59	354	2	11,2
TMW 360-250	1614	200	34	2421	77	347	2	11,3
TMW 360-300	1967	100	21	2905	53	354	2	13,2
TMW 360-300	1981	150	31	2905	74	352	2	13,4
TMW 360-300	1969	200	41	2905	93	355	2	13,5
TMW 360-350	2331	100	24	3389	63	350	2	15,5
TMW 360-350	2307	150	36	3389	85	354	2	15,6
TMW 360-350	2286	200	48	3389	111	342	2	15,8
TMW 360-400	2665	100	28	3873	72	353	2	17,7
TMW 360-400	2630	150	41	3873	97	356	2	17,9
TMW 360-400	2643	200	55	3873	126	350	2	18,0

See drawings page 11

Other speeds are available :please consult us

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TMW 533

Type	Mn (Nm)	Nn (rpm)	Pn (kW)	Mmax (Nm)	In (Arms)	Vn (Vrms)	F PWM (kHz)	Flow (L/min)
TMW 533-100	1479	100	15	2665,0	35	357	2	6,8
TMW 533-100	1441	150	23	2665,0	48	357	2	7,0
TMW 533-100	1449	200	30	2665	62	355	4	7,1
TMW 533-150	2321	100	24	3997	55	358	2	10,3
TMW 533-150	2306	150	36	3997	78	352	2	10,5
TMW 533-150	2265	200	47	3997	97	357	4	10,7
TMW 533-150	2225	300	70	3997	139	354	4	11,1
TMW 533-200	3166	100	33	5330	75	357	2	13,8
TMW 533-200	3151	150	49	5330	106	355	2	14,0
TMW 533-200	3112	200	65	5330	138	348	4	14,2
TMW 533-200	3005	300	94	5330	194	343	4	14,8
TMW 533-250	4042	100	42	6662	96	356	2	17,2
TMW 533-250	4007	150	63	6662	134	357	2	17,4
TMW 533-250	3967	200	83	6662	176	349	4	17,8
TMW 533-300	4831	100	51	7995	116	354	2	20,7
TMW 533-300	4877	150	77	7995	168	348	2	20,9
TMW 533-300	4801	200	101	7995	216	344	4	21,3
TMW 533-400	6683	100	70	10660	162	351	2	27,6
TMW 533-400	6556	150	103	10660	221	356	2	27,9
TMW 533-400	6457	200	135	10660	295	339	4	28,4
TMW 533-400	6310	300	198	10660	409	346	4	29,8
TMW 533-500	8413	100	88	13325	201	357	2	34,3
TMW 533-500	8285	150	130	13325	286	349	2	35,0
TMW 533-500	8225	200	172	13325	365	350	4	35,5

See drawings page 11

Other speeds are available :please consult us

TMW Series - Water cooling

TMW 762

Type	Mn (Nm)	Nn (rpm)	Pn (kW)	Mmax (Nm)	In (Arms)	Vn (Vrms)	F PWM (kHz)	Flow (L/min)
TMW 762-100	3293	50	17	9863	42,0	358	2	9,4
TMW 762-100	3228	100	34	9863	73,0	355	2	9,6
TMW 762-100	3197	150	50	9863	104	355	4	9,8
TMW 762-100	3190	200	67	9863	135	358	4	10,0
TMW 762-150	5236	50	27	14795	67	357	2	14,1
TMW 762-150	5144	100	54	14795	118	356	2	14,4
TMW 762-150	5019	150	79	14795	166	355	4	14,7
TMW 762-150	4942	200	103	14795	213	354	4	15,2
TMW 762-200	7017	50	37	19726	89	357	2	18,8
TMW 762-200	7013	100	73	19726	162	355	2	19,1
TMW 762-200	6812	150	107	19726	227	353	4	19,7
TMW 762-200	6713	200	141	19726	291	354	4	20,1
TMW 762-300	10962	50	57	29589	140	357	2	28,1
TMW 762-300	10704	100	112	29589	250	352	2	28,8
TMW 762-300	10594	150	166	29589	360	350	4	29,4
TMW 762-300	10352	200	217	29589	455	352	4	30,3
TMW 762-400	14782	50	77	37331	191	355	2	37,5
TMW 762-400	14511	100	152	37331	336	357	2	38,4
TMW 762-400	14298	150	225	37331	487	351	4	39,3
TMW 762-400	13826	200	290	37331	614	349	4	40,5
TMW 762-500	18712	50	98	44093	242	354	2	47,0
TMW 762-500	18222	100	191	44093	425	355	2	47,8
TMW 762-500	18103	150	284	44093	617	352	4	49,3
TMW 762-500	17530	200	367	44093	797	342	4	50,7
TMW 762-600	22449	50	118	50430	288	357	2	56,4
TMW 762-600	21952	100	230	50430	515	353	2	57,6
TMW 762-600	21681	150	341	50430	739	351	4	59,0
TMW 762-600	21111	200	442	50430	960	343	4	61,1

See drawings page 11

Other speeds are available :please consult us

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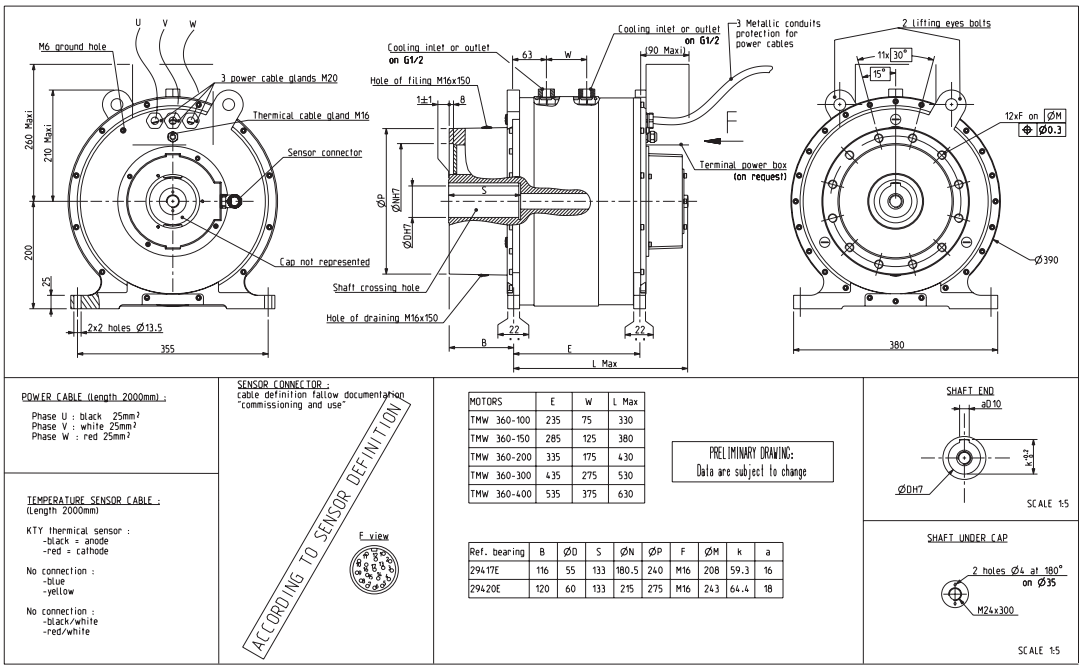
TMW360



POWER CABLE (Length 2000mm) :

Phase U : black 25mm²
Phase V : white 25mm²
Phase W : red 25mm²

TEMPERATURE SENSOR CABLE :
(Length 2000mm)

KTY thermical sensor :
-black = anode
-red = cathode

No connection :
-blue
-yellow

No connection :
-black/white
-red/white

SENSOR CONNECTOR :
cable definition fallow documentation "commissioning and use"

ACCORDING TO SENSOR DEFINITION

E view

MOTORS	E	W	L Max
TMW 360-100	235	75	330
TMW 360-150	285	125	380
TMW 360-200	335	175	430
TMW 360-300	435	275	530
TMW 360-400	535	375	630

PRELIMINARY DRAWING:
Data are subject to change

Ref. bearing	B	ØD	S	ØN	ØP	F	ØM	k	a
29417E	116	55	133	180.5	240	M16	208	59.3	16
29420E	120	60	133	215	275	M16	243	64.4	18

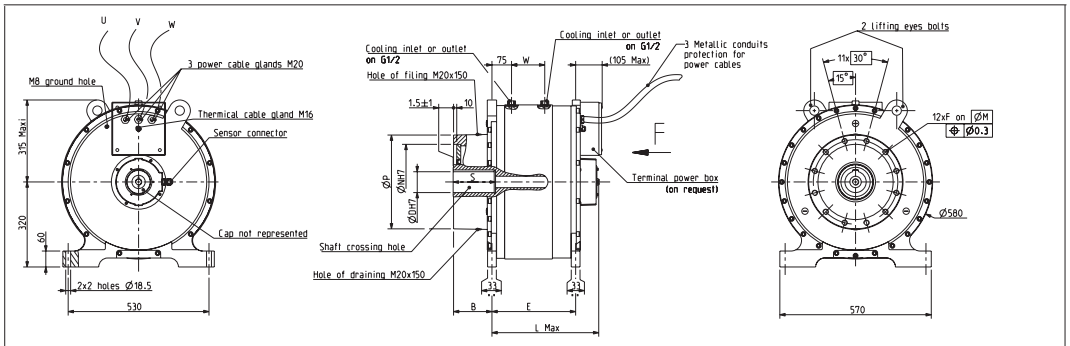
SHAFT END

SCALE 1:5

SHAFT UNDER CAP

SCALE 1:5

TMW533



POWER CABLE (Length 2000mm) :

Phase U : black 50mm²
Phase V : white 50mm²
Phase W : red 50mm²

TEMPERATURE SENSOR CABLE :
(Length 2000mm)

KTY thermical sensor :
-black = anode
-red = cathode

No connection :
-blue
-yellow

No connection :
-black/white
-red/white

SENSOR CONNECTOR :
cable definition fallow documentation "commissioning and use"

ACCORDING TO SENSOR DEFINITION

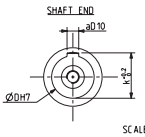
E view

MOTORS	E	W	L Max
TMW 533-100	265	75	355
TMW 533-150	315	125	405
TMW 533-200	365	175	455
TMW 533-300	465	275	555
TMW 533-400	565	375	655
TMW 533-500	665	475	755

PRELIMINARY DRAWING:
Data are subject to change

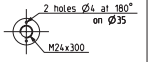
Ref. bearing	B	ØD	S	ØN	ØP	F	ØM	k	a
29420E	122	60	133	215	275	M16	243	64.4	18
29422E	128	70	133	243	318	M20	278	74.9	20
29426E	140	80	158	283	358	M20	318	85.4	22

SHAFT END



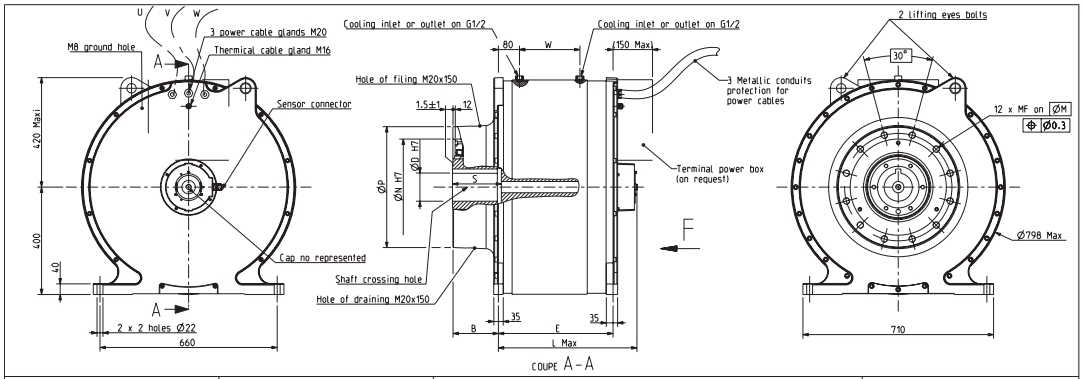
SCALE 1:5

SHAFT UNDER CAP



SCALE 1:5

TMW762



POWER CABLE (Length 2000mm) :

Phase U : black 50/70 mm²
Phase V : white 50/70 mm²
Phase W : red 50/70 mm²

TEMPERATURE SENSOR CABLE :
(Length 2000mm)

KTY thermical sensor :
-black = anode
-red = cathode

No connection :
-blue
-yellow

No connection :
-black/white
-red/white

SENSOR CONNECTOR :
cable definition fallow documentation "commissioning and use"

ACCORDING TO SENSOR DEFINITION

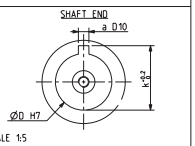
E view

MOTORS	E	W	L Max
TMW 762-100	280	75	370
TMW 762-150	330	125	420
TMW 762-200	380	175	470
TMW 762-300	480	275	570
TMW 762-400	580	375	670
TMW 762-600	780	575	870

PRELIMINARY DRAWING:
Data are subject to change

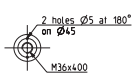
Ref. bearing	B	ØD	S	ØN	ØP	F	ØM	k	a
29422E	140	70	133	243	318	M20	278	79.4	20
29426E	152	80	158	283	358	M20	318	85.4	22
29430E	157	90	158	308	400	M24	350	95.4	25

SHAFT END



SCALE 1:5

SHAFT UNDER CAP



SCALE 1:5

AC890PX,
EXTRUDER DRIVES RANGE
30 to 400 kW

DESCRIPTION

The AC890PX concept represents a new modular approach to AC Drive. It consists of a wide variety of PowerPak modules, which can be assembled to create compact, multi-drive systems. Associated with torque motors, the AC890PX is the right solution for extruders applications.

UP TO 5 DRIVES PER CABINET

TEMPERATURE MONITORING WITH PREVENTIVE ALARM

COMPACT AND MODULAR STRUCTURE

STANDARD FIELDBUSES PROFIBUS-DP, DEVICENET, CANOPEN

TECHNICAL SPECIFICATIONS

ENERGY SUPPLY: 400V or 690V

OPTIONS AND VARIANTS:

- Several possible configurations:
  - → Monomotor, up to 400kW
  - → Multimotor, up to 5 in the same cabinet*
  - → In cabinet or as independant modules to integrate in an existing cabinet
- Water cooling in option*

INPUTS / OUTPUTS:

- Relay output: general default
- Digital output: extruder's temperature pre-alarm
- +/- 10V analog outputs: extruder speed, torque
- Analog inputs: 4, configurable (0-10V, +/-10V, 0-20mA, 4-20mA)
- Digital input: 7, configurable (24V)

(*) Future option

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SSD Parvex

SSD Parvex has been involved in the design and manufacture of electrical motors since its creation in 1948. Years after years, SSD Parvex managed to keep its know-how at the cutting edge of technology, building a complete range of AC, DC and torque motors.

Now part of Parker Hannifin's group, SSD Parvex continues to bring its unique know-how and experience accross various industries, serving machine builders as well as end-users.

- 1969 - DC Axem motors with flat rotor,
- 1994 - Synchronous motors for electrospindles,
- 1999 - Brushless servomotors in kit,
- 2005 - Torque motors

SSD Parvex plant in Dijon

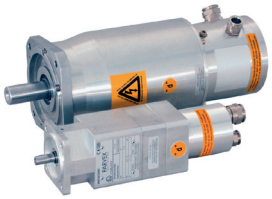
SSD Parvex other solutions

AC890 System drives

- 0.55 to 1000kW
- Power supply 380-500Vac ±10%
- Heating control of motor with prealarm
- Standard Fieldbus : Profibus-DP, DeviceNet, Ethernet

NX Series Servomotors

- High dynamic and compact dimensions
- Insulation F class
- Rotor with concentrated-flux rare earth magnets
- 10 poles winding



EX Series - Atex Servomotors

- Explosive atmosphere servomotors according to ATEX 94/9/CE directive
- Maximum compactness, high dynamics
- Protection Flameproof "d" according to EN50018 standard.
- Integrated resolver

Electrospindles HW Series

- Speeds up to 50000 rpm
- High torque at low speed
- Rotor with permanent magnets at low inertia
- Insulation F class

Servomotors in Kit, NK/NW series

- Direct drive : Accurate and robust mechanics
- Complete and optimized solution encluding sensor and drive
- air-cooling or water-cooling
- Integration assistance

DC Servomotors RS-RX series

- High energy magnets motors
- High acceleration
- Low inertia
- Insulation F class

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SSD PARVEX

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PVD3611GB - 01/2007 - Products subject to change