

## The problem solver

Whatever the market or application in which a mechatronic drive system is to be used, SONCEBOZ invariably seeks to propose an innovative solution adapted to the particular requirements of the customer.

Whether the problem to be solved arises from the available space, the harsh environment of the application or the power required, SONCEBOZ is able to offer you unique product from its wide experience over many years in fields as diverse as Heating - Ventilation - Air Conditioning, Automotive, Textile, Medical or Mobile Hydraulics.

## From standard motors to customized solutions

A wide range of products and the technological contribution of our advanced research centre, MMT (Moving Magnet Technologies), enables SONCEBOZ to use a standard existing product as the basis for developing and producing adapted mechatronic systems.

The advantage of this approach is that the customer's specifications can be used to choose the technology, and then the product, that will serve as basis for a new project.

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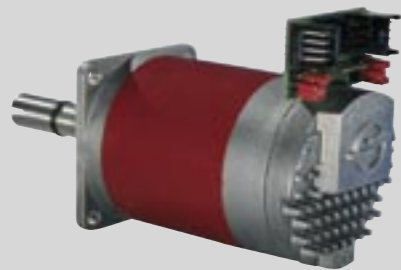
**Specific Solutions**  
DEVELOPED FROM A STANDARD PRODUCT



Automation  
Paint dosing



Medical  
Syringe pump



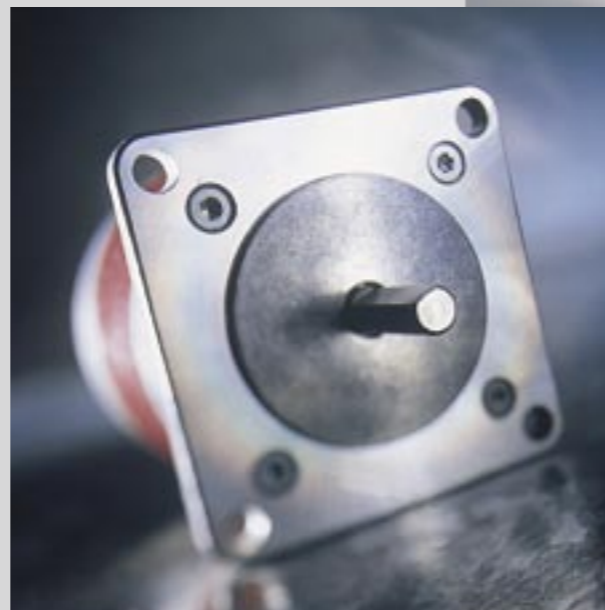
Medical  
Peristaltic pump



Telecom  
Antenna frequency modulation



Mobile Hydraulics  
Tractor



# Hybrid stepper motors

The hybrid stepper motor comes into its own where **torque** at low speed, **positioning** and **accuracy** are determining factors.



Step angle : 1.8 °  
Size : Ø 42 / Ø 57 / Ø 86  
Holding torque : 130 to 8900 mNm

standard products \*

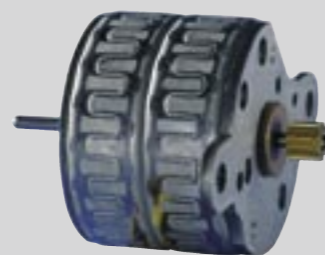
type →	6540		6600			6630		
	1.3"	1.8"	1.5"	2.0"	3.0"	2.4"	3.7"	5.0"
steps/rev.	200	200	200	200	200	200	200	200
holding torque [mNm]	130	265	540	925	1950	2750	6000	8900
nominal power [W]	5	8	7,2	10.5	16.5	18.5	30.5	40
rotor inertia [g.cm <sup>2</sup> ]	18	35	131	248	425	1390	2660	3950
size [mm]	Ø 42	Ø 42	Ø 57	Ø 57	Ø 57	Ø 86	Ø 86	Ø 86
length [mm]	33	44.9	38.7	50.8	76.2	62.2	94.2	127.2
weight [kg]	0.2	0.3	0.37	0.57	0.95	1.5	2.8	4.0

\* Data sheets available

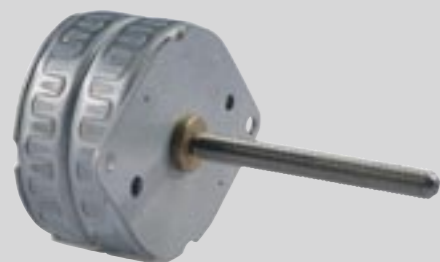
**Specific Solutions**  
DEVELOPED FROM A STANDARD PRODUCT



Automation  
Display



Truck  
Tachograph



Medical  
Syringe pump



Telecom  
Antenna position's cell



Automation  
Wood machine

# Permanent magnet stepper motors

Compact in size,  
light and  
noiseless

this motor is used when  
low power is needed.  
Easily integrated  
in a wide range  
of applications.



Step angle : 7,5 ° - 15 °  
Size : Ø 25 Ø 35 Ø 42 Ø 57  
Holding torque : 11 to 120 mNm

## standard products \*

type	6154	6181	6184	6231	6161
steps/rev.	24	48	24	48	48
holding torque [mNm]	11.5	16	15.5	57	120
nominal power [W]	1.5	3.1	3.1	4	8.3
rotor inertia [g.cm <sup>2</sup> ]	1.3	2.4	2.4	12	30
size [mm]	ø 25.4	ø 35	ø 35	ø 42	ø 57
length [mm]	18.3	19.8	19.8	22.5	25
weight [g]	37	75	75	120	275

\* Data sheets available

## Specific Solutions

DEVELOPED FROM A STANDARD PRODUCT



Motorbike  
Electronic suspension



Safety  
Locking device



Automotive  
Lighting



Automotive  
Idle air control



Heating  
Gas valve



## Linear actuators

The reliability of the actuator enable to use it under extrem conditions, where limited space and precision are required.

Force : 30 to 146 N  
Stroke : 8.5 – 80 mm  
Size : Ø 25 / Ø 34 / Ø 39 / Ø 63

### standard products \*

	type →	7214	7211	7217	7220	7230
step/rev.		24	48	24	48	48
increment	[mm]	0.042	0.021	0.042	0.0254	0.0254
force	[N]	35	60	35	up to 70	146
nominal power	[W]	3.4	3.4	3.3	5	10
stroke	with antirotation	18	18	8.5	22	-
	without antirotation	80	80	-	63	76.2
size	[mm]	Ø 25.4	Ø 25.4	Ø 34	Ø 39	Ø 63
length	[mm]	25.6	25.6	57.2	32.5	38.5
weight	[g]	50	50	70	135	450

\* Data sheets available

## Specific Solutions

DEVELOPED FROM A STANDARD PRODUCT



Truck  
Tachograph



Automotive  
Instrument clusters



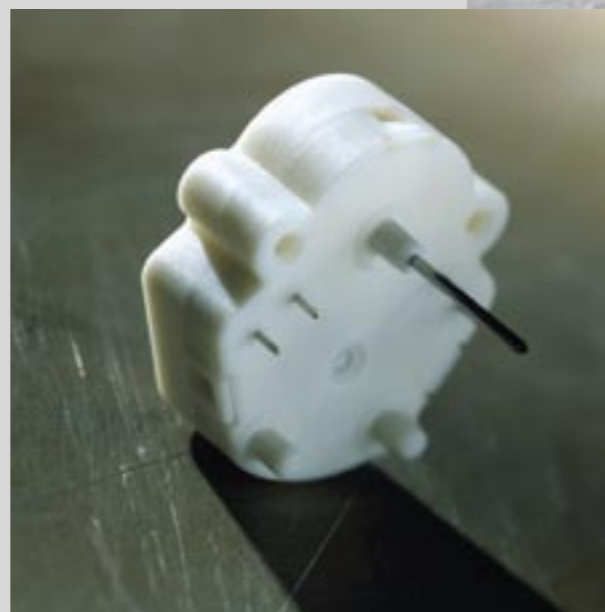
Automotive  
Instrument clusters



Automotive  
Instrument clusters



Automotive  
Air conditioning



## Slimline stepper motors

Light and **silent** in operation,  
this motor is used for **smooth**  
**movement**,  
in applications where reliability  
and **compactness**  
are crucial.



Torque : 1.3 to 25 mNm  
Speed : 200 to 1000 degree/s  
Weight : 7 to 16 g

### standard products \*

	type →	6405		6415	
gear ratio		1 : 36	1 : 90	1 : 10	
dynamic torque	[mNm]	1.3 or 1.6 at 200 degree/s	25 at 50 degree/s	3.2 at 400 degree/s	
noise level (at 200 degree/s)	[dB(A)]	26	32	32	
speed at 22°C	[degree/sec]	800	200	1500	
operating voltage	[V]	5	5	5	
operating current	[mA]	22	30	30	
operating temperature	[°C]	-40 to +105	- 40 to +85	- 40 to +85	
weight	[g]	7	16	14	

\* Data sheets available

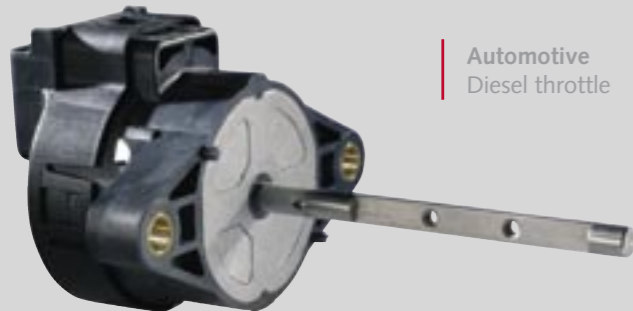
**Specific Solutions**  
DEVELOPED FROM A STANDARD PRODUCT



Automotive  
Variable Turbine Geometry



Automotive  
Exhaust Gas Re-circulation (EGR)



Automotive  
Diesel throttle



Automotive  
Exhaust Gas Re-circulation (EGR)



Automotive  
Diesel throttle

# Torque motors

This motor is  
contactless  
direct drive and  
exhibits high torque  
and dynamics.



Travel angle : up to 70 °  
Response Time : < 50 ms  
Sensor signal : 0.5 to 4.5 V

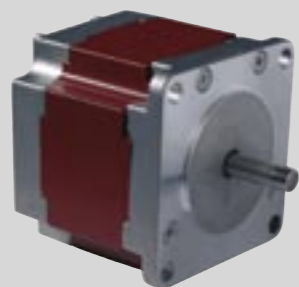
standard products \*

	type →	4136	4276	4146	4156
motor constant	[mNm/√W]	45	60	75	145
torque constant	[mNm/A]	80	95	140	260
resistance	[Ω]	2.6	2.1	3.1	3
peak torque @ 13.5V	[mNm]	360	560	560	1050
length x diameter	[mm]	52 x 54	52 x 54	60 x 54	57 x 67
operating temperature	[°C]	-40 to +150	-40 to +150	-40 to +150	-40 to +150
weight	[g]	320	330	470	700

\* Data sheets available

## Specific Solutions

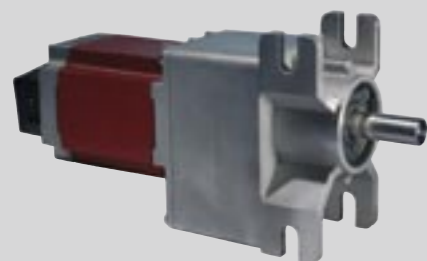
DEVELOPED FROM A STANDARD PRODUCT



Heating  
Blower



Textile  
Loom



Automation  
Elevator door



Medical  
Peristaltic pump



Automation  
Marking and engraving



## Brushless-DC motors (BLDC)

Dynamic, speed  
and accuracy

are the keywords  
of BLDC technology.

Used when positioning  
or speed regulation  
are critical.

standard products \*

Stall torque : 210 to 520 mNm  
Power : 80 to 140 W  
Speed : 6500 to 12000 rpm

	type →	5455		
		1.5"	2.0"	3.0"
motor constant	[mNm/√W]	46,5	66	92
continuous stall torque	[mNm]	210	335	520
continuous output power	[W]	80	110	140
rotor inertia	[g.cm <sup>2</sup> ]	126	204	371
size	[mm]	∅ 57		
length	[mm]	38.8	50.8	76.3
weight	[g]	435	630	1055

\* Data sheets available

## Specific Solutions

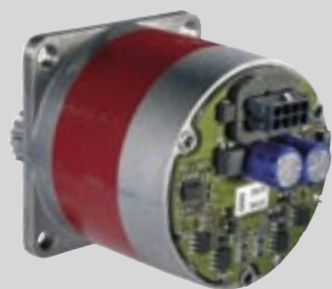
DEVELOPED FROM A STANDARD PRODUCT



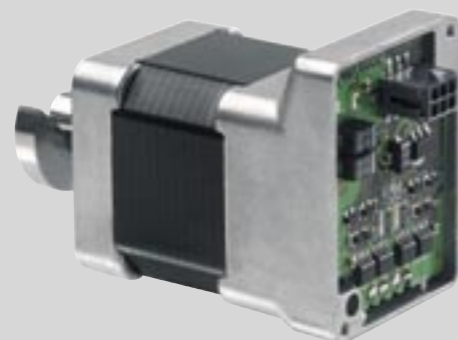
Mobile Hydraulics  
Tractor



Telecom  
Frequency regulation filter



Medical  
Peristaltic pump



Textile  
Yarn tension



Automotive  
LPG regulation



## Smart actuators

The smart actuator is a  
complete drive  
system with electronic,  
able to detect position  
and / or can be  
interfaced via a  
communication  
BUS.

### standard products \*

linear smart actuator		8623
power supply	[V]	9 to 16
interface PWM	[Hz]	140
stroke	[mm]	8.5
resolution	[mm]	0.042
force	[N]	15
speed	[mm/s]	8
dimensions	[mm]	ø 44 x 70
weight	[g]	157

rotative smart actuators		8656	8660
power supply	[V]	24	24
interface pulse	[KHz]	0 to 200	0 to 200
torque	[mNm]	170 to 280	325 to 950
input power	[W]	31 to 38	35 to 65
micro step/revolution	[μ step]	400 - 51200	
dimension	[mm]	ø 42 x 54 to 66	ø 57 x 56 to 93
weight	[g]	250 to 367	392 to 982

\* Data sheets available

## Specific Solutions

DEVELOPED FROM A STANDARD PRODUCT



Driver for Textile application



Brushless DC Driver 9522



Stepper motor Driver 9103



Driver for tractor application



Torque motor Driver 9402



## Electronic drivers

Flexible,  
compact

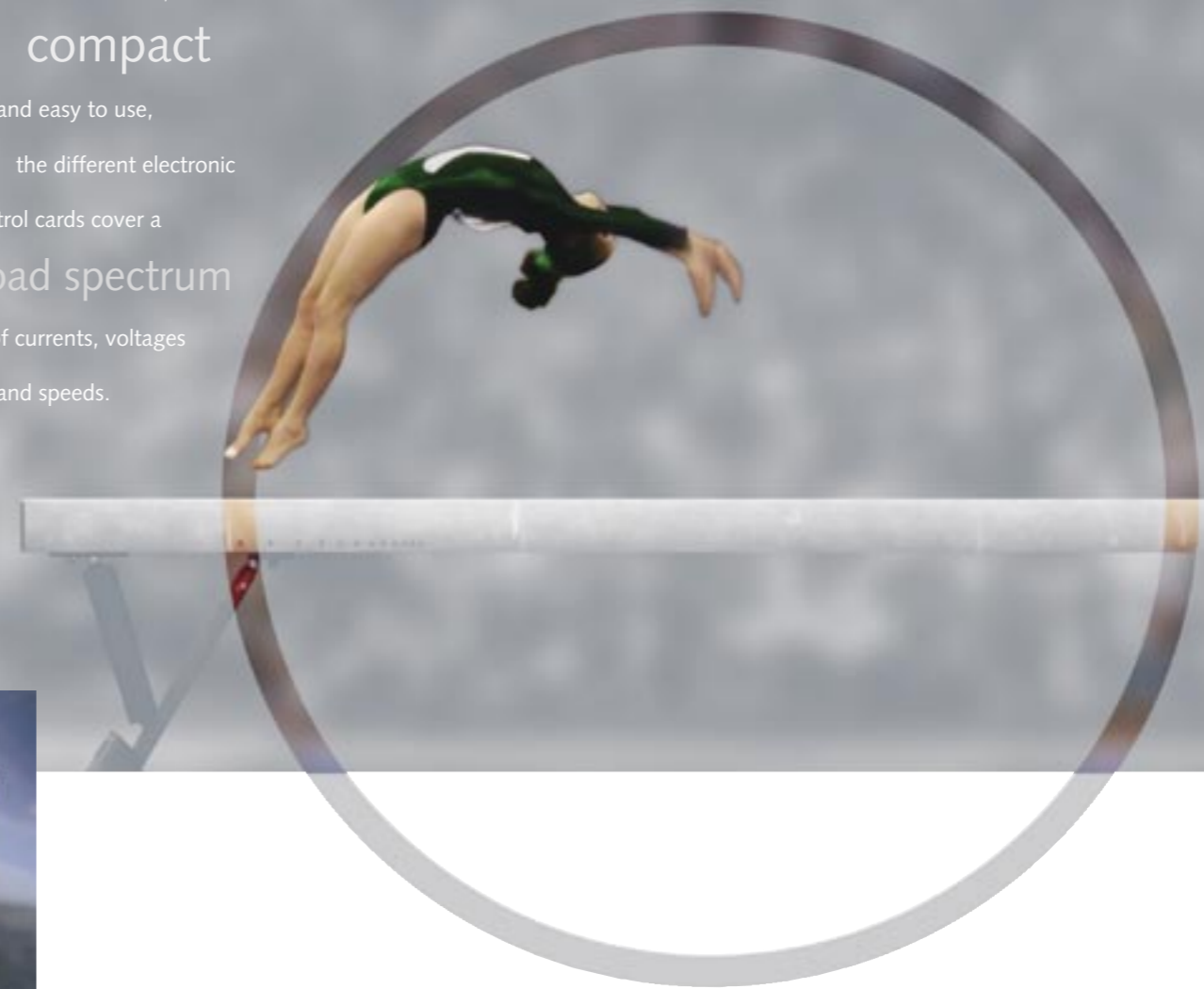
and easy to use,

the different electronic

control cards cover a  
broad spectrum

of currents, voltages

and speeds.



standard products \*

BLDC motor driver		9522
operating current	[A]	10
peak current	[A]	20
operating voltage	[V]	18 to 48
dimension	[mm]	100 x 102 x 32

torque motor driver		9402
operating voltage	[V]	9 to 16
peak current	[A]	6
user interface		PWM signal + RS-232
position control		PID regulator
dimension	[mm]	115 x 65 x 30

stepper motor driver		9103
current nominal / phase	[A]	0.2 to 3.75
current / phase with boost	[A]	4
programmable step angle		8 position from 1/1 to 1/128
operating voltage	[V]	12 to 40
dimension	[mm]	100 x 102 x 32

\* Data sheets available