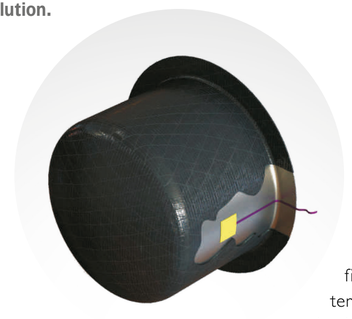
Most Advanced Rear Containment Shell on the Market

Thanks to our 40 years of experience in magnetic drive technology, Bedu Pumps is able to supply innovative and unique rear containment shell on magnetic drive pumps to enhance the competiveness and operational efficiency in today's process industry.
As technology advances, the need for high pressure, high temperature and energy eciency become the top priorities among pump users. Staying ahead of these priorities required Bedu Pumps to adopt a forward thinking and proactive approach to pump design. Based on this Philosophy, Bedu Pumps has created an advanced High pressure, High Temperature and Energy e cient Rear Containment Shell to eliminate the various concerns on the use of magnetic driven pumps in the process industry.

The patented hybrid technology containment shell combines the reliability of a standard inner metallic shell (High Pressure and High Temperature) with the strength of Carbon Fibre outer shell to achieve an energy ecient (Reduction in magnetic loss and cost of ownership) and environmental friendly (Hermetically sealed) solution.



INTELLECTUAL PATENTED PROPERTY

FILE NUMBER:
PD2010A000249

Hybrid Containment Shell with thermocouple

Our Hybrid containment shell consists of a dual shell system.
The external shell is made of carbon fiber, and the internal shell is made of Hastelloy ® C or Titanium. Using carbon fiber on the External guarantees the highest mechanical strength and the internal metallic shell ensures optimal chemical compatibility. We offer optional temperature monitoring.
The Temperature sensor installed between the inner and outer shell is located at the source of the magnetic field to provide accurate temperature reading and timely response to avoid costly pump failure.

In addition to generating much lower temperatures compared to other metallic versions, the thin shell of Hastelloy ® C, guarantees immediate and accurate reading of temperature changes. Traditional solid metallic Shell Containments with thermocouple PT100 see delays in reading temperature, possibly resulting in pump failure.

BEDU POMPEN

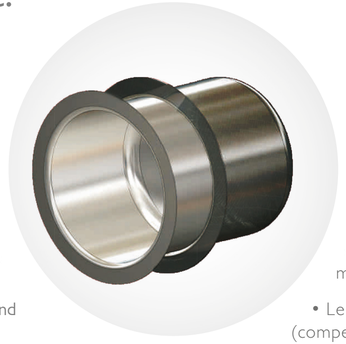
Bedu Pompen B.V.
Poort van Midden Gelderland Rood 10
6666 LT HETEREN, The Netherlands
Tel: +31 (0)88 4802 900 - Fax: +31 (0)88 4802 901
Website: www.bedu.nl
Email: info@bedu.nl

HYBRID REAR CONTAINMENT SHELL

Innovative and unique solution offering:
- Low power absorption and consumption
- Low heat generation
- High design pressure and temperature

Setting Innovative Standards

Be Efficient!



Installation of an Hybrid Rear Shell on a large (1000 kW motor power) magnetic driven process pump.
Ease of both installation and maintenance.

Hybrid Technology is the most advanced and attractive ENERGY SAVING solution available now in the market:

- Less powerful installed motors (competitive initial offering).
- Lower power consumption (very low Total Cost of Ownership for end user).

The below chart shows yearly energy saving values (based on 0,12 €/kwh).

Main Advantages

- *Impressive reduction in Magnetic losses*
- *High Pressure design: vacuum to 50 bar g*
- *High Temperature design: -90 ° C to 200 °C*
- *Motor power installation up to 1000 kW*

Hybrid Rear Casing energy saving comparator

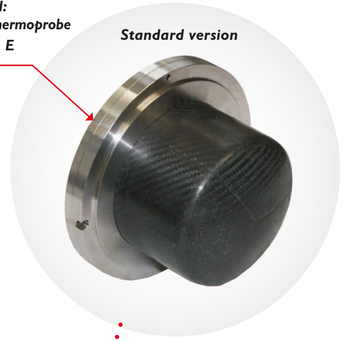
MAX. INSTALLED POWER [kW]	MAG-LOSSES [kW] WITH TRADITIONAL TECHNOLOGIES	MAG-LOSSES [kW] WITH HYBRID TECHNOLOGIES	COST SAVING EURO/year	ROTATION SPEED (RPM)
4	1,40	0,36	910,00	2900
5,5	1,70	0,70	870,00	2900
15	2,60	0,78	1.590,00	2900
22	4,00	1,04	2.590,00	2900
37	6,00	1,56	3.880,00	2900
75	8,70	2,30	5.600,00	2900
90	9,40	2,80	5.780,00	2900
180	19,00	5,60	11.730,00	2900
270	27,00	8,40	16.730,00	2900
200	6,70	2,50	3.670,00	1450
300	13,40	5,00	7.350,00	1450
400	20,10	7,50	11.030,00	1450
500	26,80	10,0	14.710,00	1450
600	* 33,50	12,5	18.390,00	1450
700	* 40,20	15,0	22.070,00	1450
800	* 46,90	17,5	25.750,00	1450
900	* 53,60	20,0	29.430,00	1450
1000	* 60,30	22,5	33.110,00	1450

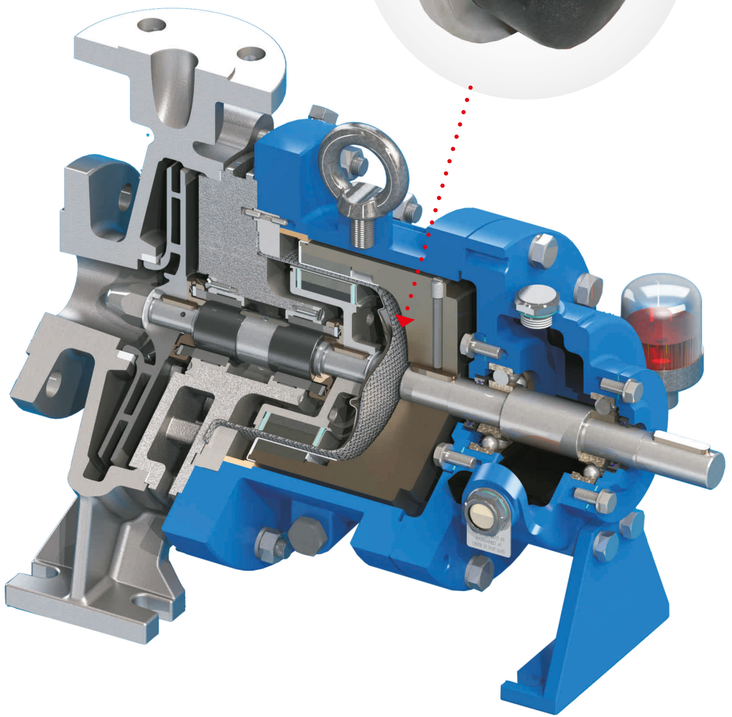
*** With these high installed powers and relevant magnetic losses, the use of traditional containment shells is not possible, Bedu PUMPS only is able to supply these sizes of magnetic drive pumps.**

Available on all BEDU Process Pumps

On demand: integrated thermoprobe sensor type E

Standard version





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Mag Losses and Heat Reduction

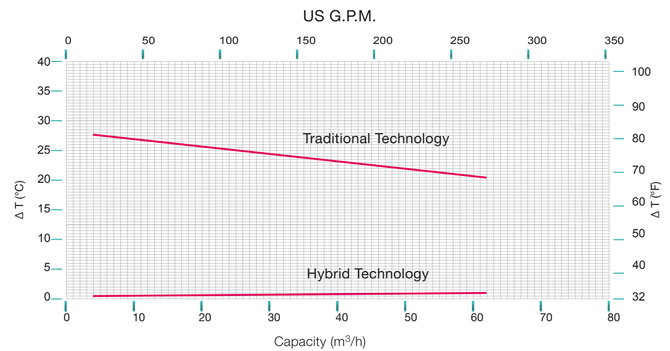
Table shown below is a comparison between **Bedu** and other rear shell solutions available currently on the market.

Hybrid shell containment comparison (*)

	MATERIAL	DES PRESS (bar)	DESIGN TEMP °C	MAG-LOSSES (kW)	NOTES
HYBRID PUMPS	HASTELLOY C / CARBON FIBER	**50**	-90/+200°C	**0,78**	EXTREMELY RELIABLE/SUITABLE FOR TEMP. PROBE/GREAT PRICE ADVANTAGE
COMPETITORS	ZIRCONIUM OXYDE	16	-190/+350°C	/	HIGH COST AND MUCH LOWER PRESSURE
	METAL ZIRCONIUM OXYDE	16	-190/+350°C	1,5	HIGH COST, MUCH LOWER PRESSURE AND HIGHER MAG LOSS COMPARED
	COMPOSITE PEEK	16(≤ 20 °C)	-40/+ 120°C	/	HIGH COST AND PRESSURE AND TEMPERATURE LIMITATION
	PTFE - CARBON FIBER	16	-20/+ 200°C	/	PRESSURE LIMITS AND OVERSIZING OF MAGNET (DE-COUPLING RISK)
	BOROSILICATE GLASS	10	-40/+ 180°C	/	PRESSURE LIMITS, VERY FRAGILE AND HIGH COST (OVERSIZED MAGNET)

(*) Comparison with installed motor 18,5 kW, 2 poles, 50 Hz.

Minimized Temperature rising on rear casing region



Hybrid technology reduces greatly heat generation in the rear casing region. This benefit is particularly important when pumping low boiling liquids.