

Membrane Pumps
Solids Handling Pumps
High Pressure Pumps
Marine Pumps

ABEL EM

Electromechanical Membrane Pumps
The Economical Alternative



Universal and efficient in application

ABEL[®]
Pump Technology

ABEL EM

Capacity ranges up to 120 m³/h, up to 0.8 MPa

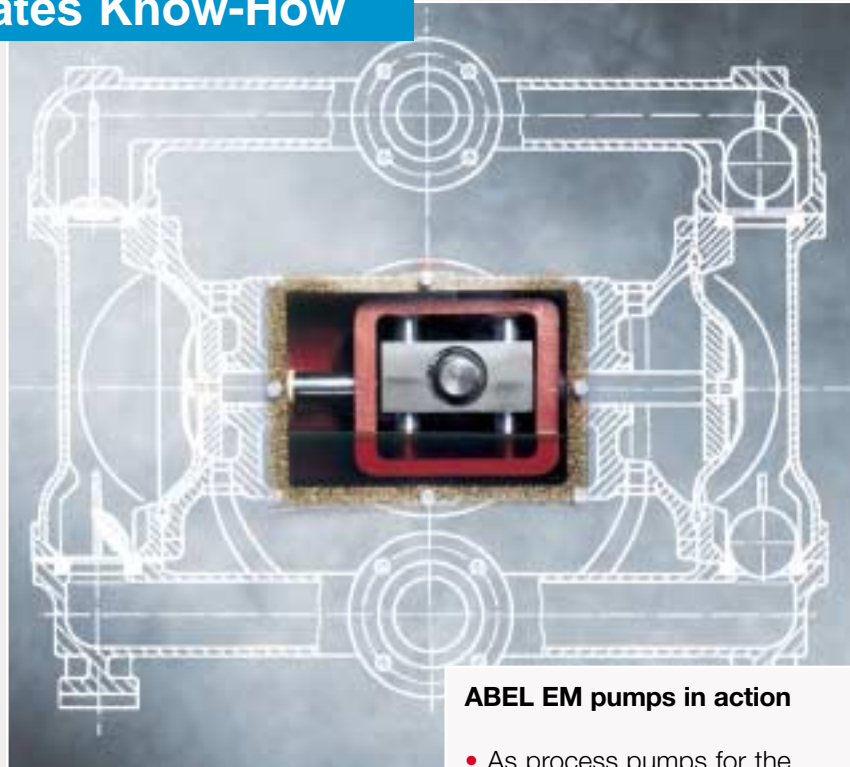
Specialisation creates Know-How

Three Versions.
One idea.

ABEL EM is available in three different basic versions and 50 types to meet the requirements of the wide range of applications. This is supplemented by a great variety of materials for membranes, balls and valve seats.

ABEL EM Metal
ABEL EM Plastic
ABEL EM Food

A convincing alternative to the conventional pump technology for numerous applications and branches.



ABEL EM pumps in action

- As process pumps for the transfer of liquids and powders
- For filter press feeding
- For centrifuge feeding
- For metering

ABEL EM Metal

- Water and sewage industry
- Ceramic industry
- Land drainage
- Marble and stone plants
- Navigation, offshore
- Automobile industry
- Mechanical engineering
- Fire-fighting
- Paper industry
- Mining engineering
- Colour and paint industry
- Road tankers

ABEL EM Plastic

- Chemical industry
- Pharmaceutical industry
- Refineries
- Power stations

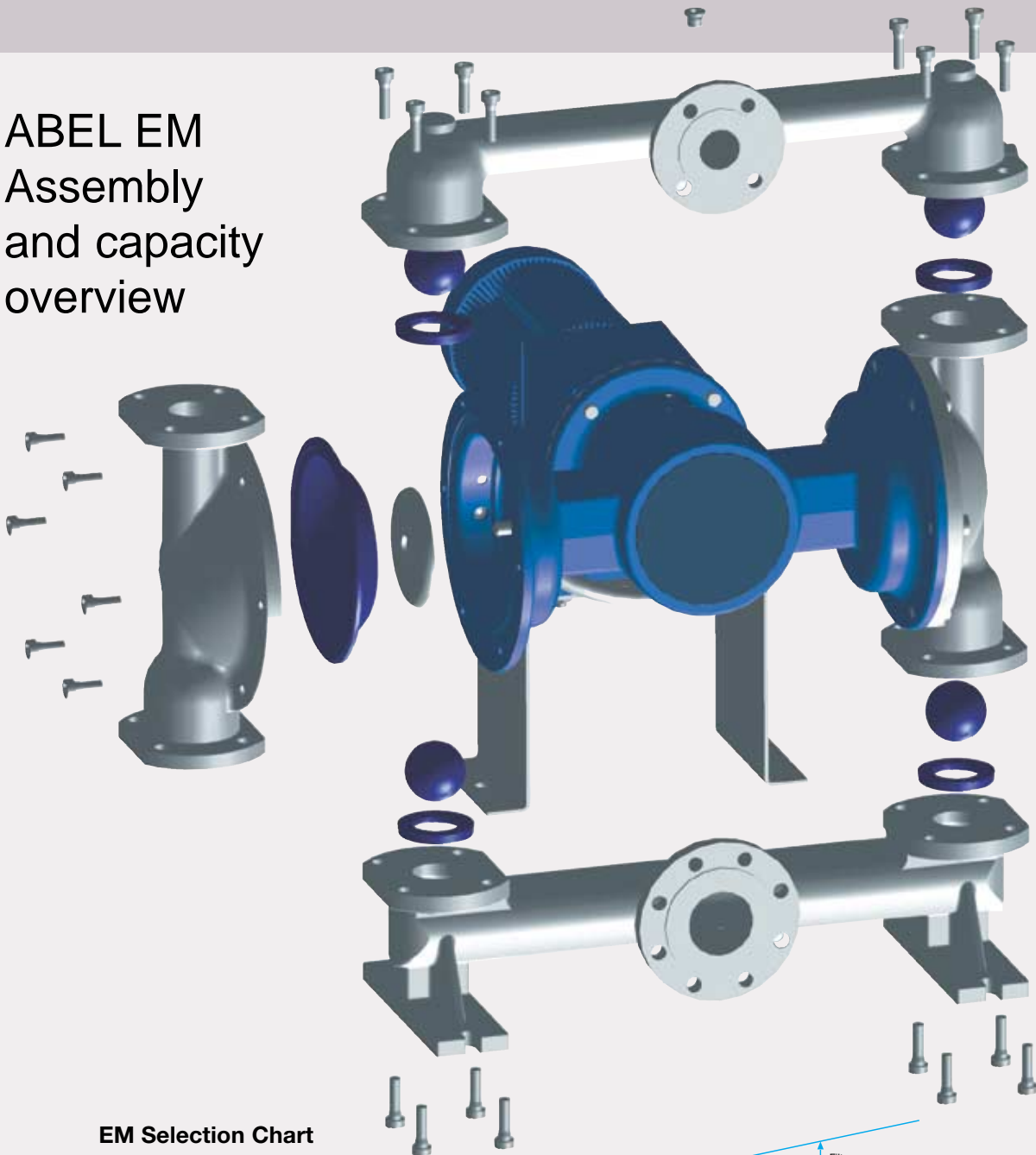
ABEL EM Food

- Brewing/beverage industry
- Food industry

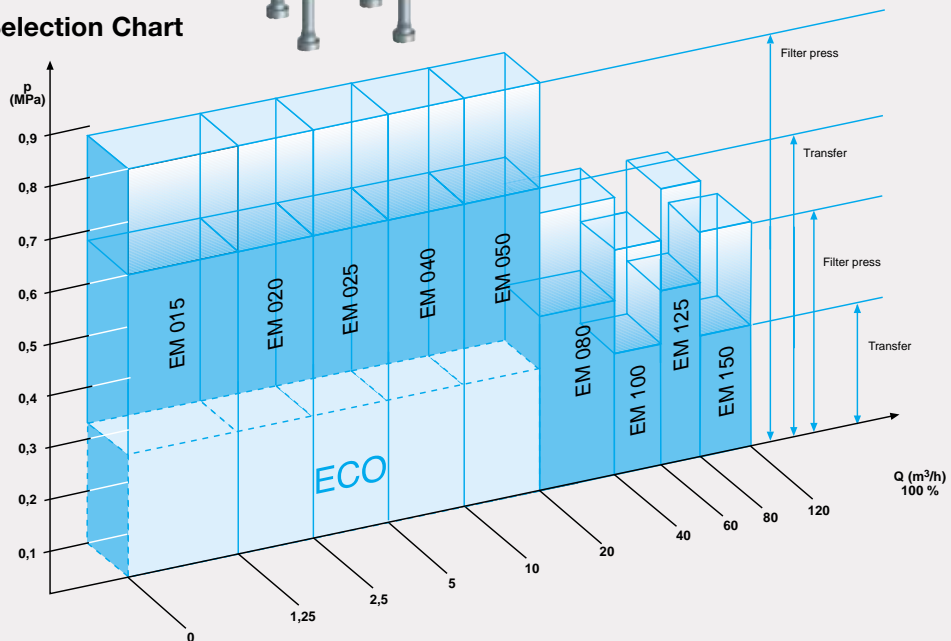
The advantages of ABEL EM

- Smooth product transfer
- Low operating costs through high efficiency
- Almost constant flow quantity across the whole pressure range; i.e. maximum capacity even with changing viscosities
- Comfortable operation, because self-priming
- Flexible controllable between 0-100%
- Long life through robust design
- Flexible application through variable materials
- High reliability because safe against dry running

ABEL EM Assembly and capacity overview



EM Selection Chart



ABEL EM eco-line

Where less means more.

Less wear parts, low operating costs. For good reasons our customers have made the patented Electromechanical Membrane Pump ABEL EM to the world market leader* in its class.

Life-time Costs – Life-time Loss?

The use of conventional pumps in the range up to 0.8 MPa often incurs high running costs. A different picture of the actual costs incurred is obtained when looking at the costs over the service life of a pump, because the purchase costs mostly constitute a fraction of the life cycle costs of a pump (see graph below).



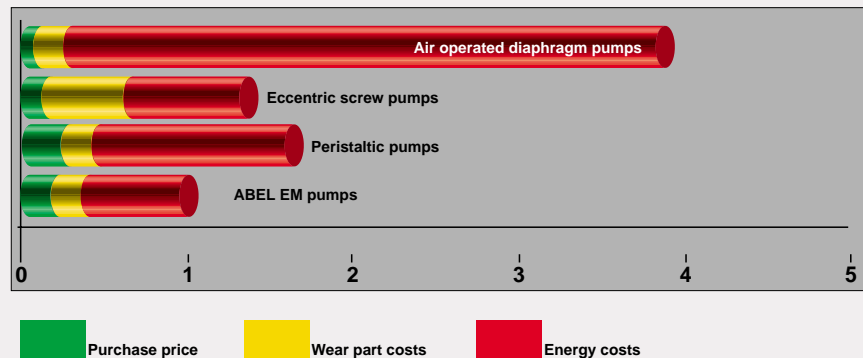
For operating pressures up to 0.25 MPa and flow rates up to 20 m³/h the new ABEL eco-line is a particularly economical alternative.

*Hydraulic Institute, 1999

ABEL has utilised all possibilities to reduce the operating costs in reciprocating positive displacement pumps through the development of the ABEL EM:

- Economical use of energy (approx. 80% saving in comparison to air operated membrane pumps)
- Minimal use of wear parts with optimized life for membranes, valve balls and seats
- High volumetric efficiency up to 95 %
- Linear characteristic curve for constant flow rate even with changing viscosities
- Leak-proof as no mechanical seals are required
- Smooth transport of shear-sensitive media

“Life-time” cost consideration
(5 years or 40,000 hours)



ABEL EM Plastic

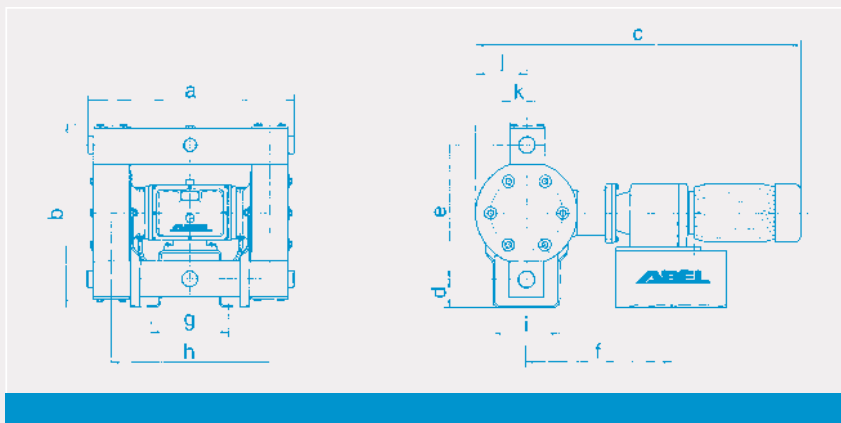
Capacity ranges up to 40 m³/h, up to 0.8 MPa

For aggressive media

In the chemical industry and in other areas of process technology aggressive media require the use of high-quality plastics such as polypropylene (PP), PVDF (PV), polyurethane (PU) or PTFE (PT) as well as explosion proof motors. ABEL delivers suitable pumps for these applications with flow rates up to max. 40 m³/h.



ABEL EM Food



As supplement to the EM Program, a food compliant stainless steel design (EF) is available. The flow-optimised design of the ABEL EM food comes without dead spaces and enables easy rinsing and cleaning according to the methods [CIP] and [SIP]. All product-contacting materials such as membranes, balls and seats are available in FDA approved materials.

ABEL-EM	Size	15	20	25	40	50	80 *)	
Capacity up to [m ³ /h]		1,25 **)	2,5	5 **)	10 **)	20 **)	40	
Maximum strokes [1/min]		150	135	120	110	100	94	
Power required at 0.6 MPa [kW]		0,37	0,75	1,5	3	5,5	11	
Nom. diam. of suction connection		G 3/4"	G 1"	G 1 1/2"	G 2"	DN 80	DN 100	
Nom. diam. of discharge connection		G 1/2"	G 3/4"	G 1"	G 1 1/2"	DN 50	DN 80	
Maximum particle size [mm]		3	4	6	8	10	12	
Approx. weight [kg]		30	60	80	125	270	830	
Dimensions								
a		405	510	605	680	845	1255	a
b		265	310	380	485	740	985	b
c		585	730	852	1023	1207	1740	c
d		36	30	40	53	115	182	d
e		200	250	305	385	560	735	e
f		290	335	439	449	570	750	f
g		175	205	280	280	330	490	g
h		300	380	460	520	645	995	h
i		60	80	190	243	300	400	i
k		30	38	48	55	73	115	k
l		80	98	120	146	210	250	l

*) only available in the material PA

**) approx. 50% of the flow rate if PTFE membranes are used

ABEL EM Accessories – Reasonable options for measurement, control and regulation

Optimum process adaptation



The EM
Accessories
Range.
Matching
the needs.

The ABEL accessories allows the individual application of Electromechanical Membrane Pumps EM in your production facilities.



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ABEL[®]
Pump Technology

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