

## Data requested for the MEEUP model

### Data collection

Please find overleaf the data (or “shopping list”) that is required to run the MEEUP model for pumps. The data comprises two parts:

**1. Data on specific pumps** from individual manufacturers. For each individual pump please can you also send any relevant catalogues or datasheets.

**2.) Other data - to be supplied as "standard" numbers by Europump**

Data such as product lifetime, service requirements and efficiency deterioration over time are harder to judge, and so for consistency we propose to ask Europump for “baseline” figures. These figures will provide a common basis against which variations for different products can be estimated.

*Note that the example shown is not for a real pump, but is just to give an idea of the approach to be taken in completing the form.*

### What is the product?

If you do have more than one family of pumps that meets the duty, please submit data on all of these products. Don't worry about minor differences in construction – it is only aspects that will significantly affect the outcome of the eco-analysis that we are trying to capture. A small difference in fixing arrangement is probably not relevant, but a change in impeller material might be significant in energy terms, and so would justify re-running the model.

For consistency, the analysis includes only the pump itself, not the drive or coupling.

### Clarifications

We have tried hard to make the list of questions as short and clear as possible, but recognise that there will be uncertainties, so do contact Hugh or Charles with any questions at all – we are obviously keen to help out as much as we can.

Hugh Falkner [hugh.falkner@aeat.co.uk](mailto:hugh.falkner@aeat.co.uk) 00 (44) 870 190 6115  
Charles Gaisford [charles.gaisford@aeat.co.uk](mailto:charles.gaisford@aeat.co.uk) 00 (44) 870 190 6353

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**1.) To be completed by manufacturer for each product that meets the selected duty**

**Pump details**

Pump Type	ESOB
Manufacturer	XXXXXXXX
Model	XXXXXXXX

**Product Bill of Materials (inc parts and packaging)**

Item Description	Weight (g)	Type of material
Impeller	1000	bronze
casing	5000	cast iron
shaft	2000	stainless steel
metal fixings	500	steel
pallet	5000	wood
protective covering	350	polyethene
<i>please add as many lines as needed</i>		

**Typical consumables (spares)**

	Weight (g)	
wear ring	230	sheetmetal
seal	50	
<i>please add as many lines as needed</i>		

**Pump performance data**

Operating efficiency of the pump selected at the selected duty point	77	%
Head at BEP (at full impeller diameter)	20	m
Flow at BEP (at full impeller diameter)	150	m <sup>3</sup> /h
Efficiency at 50% BE flow (at full impeller)	50	%
Efficiency at 75% BE flow (at full impeller)	70	%
Efficiency at 100% BE flow (at full impeller)	80	%
Efficiency at 125% BE flow (at full impeller)	70	%

**Other**

Volume of packaged product	0.15	m <sup>3</sup>
Typical selling price (retail)	610	Euro

**2.) Service costs - To be supplied as "standard" numbers by Europump**

**Miscellaneous**

Typical lifetime decrease in efficiency	10	%
Average product life	12	years*
Typical acquisition costs of pump - inc administrative costs, shipping, installation and commissioning.	230	Euro
Typical cost of downtime due to pump malfunction or servicing	220	euro

**Service/maintenance**

Typical lifetime lubricant requirement	100	g
Lubricant type		oil
No. of service visits over pump life	3	No.
Average distance travelled for each service visit (round trip)	60	km
Total cost of each service visits (excluding actual parts)	300	euro
Average number of each consumable used over product lifetime	1.5	Wear rings
	2.2	Seals

*please add as many lines as needed*