



ACHIEVE EXCELLENCE

Introduction to Direct Drive – Customer Sales Presentation

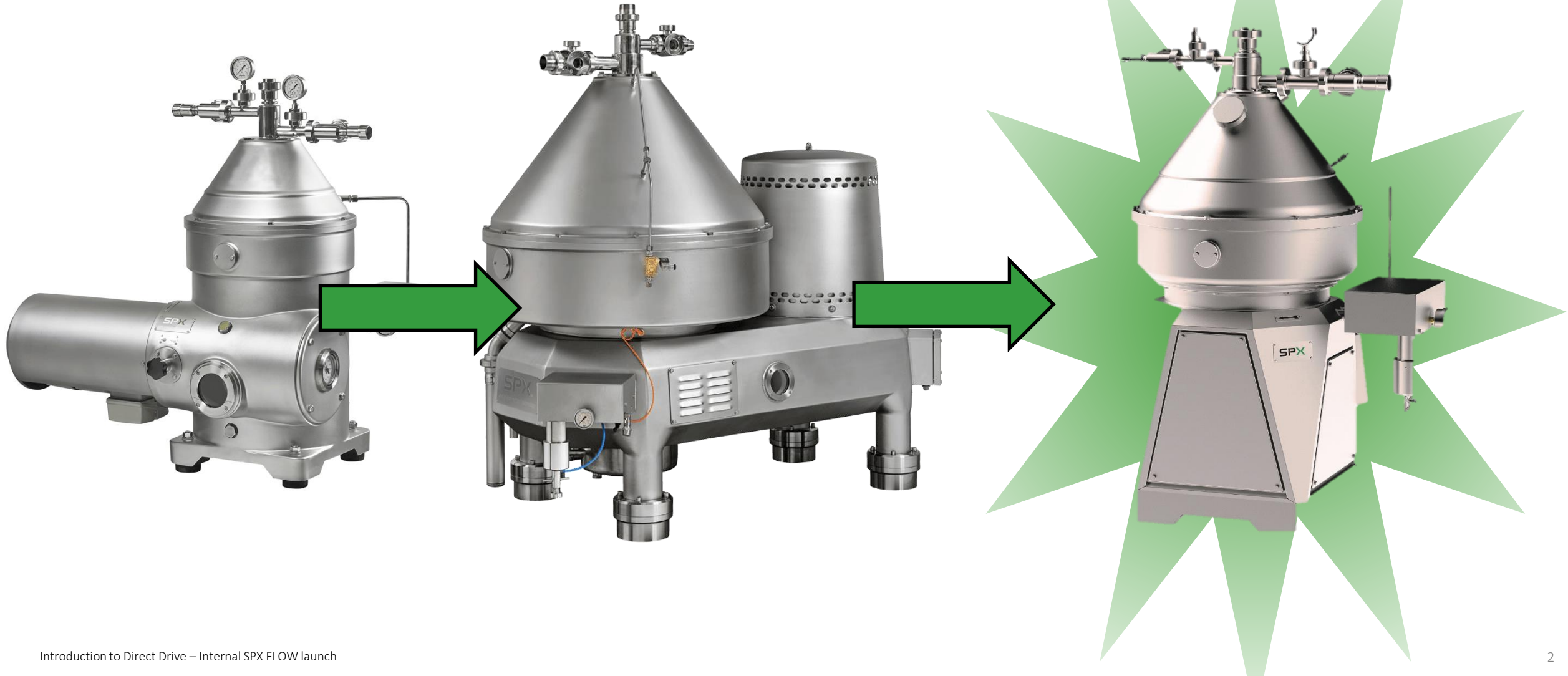
ONE WORLD
FINGERPRINT

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SPXFLOW

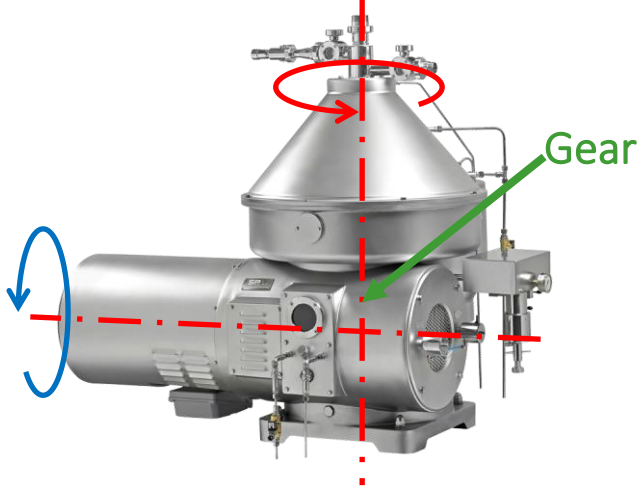
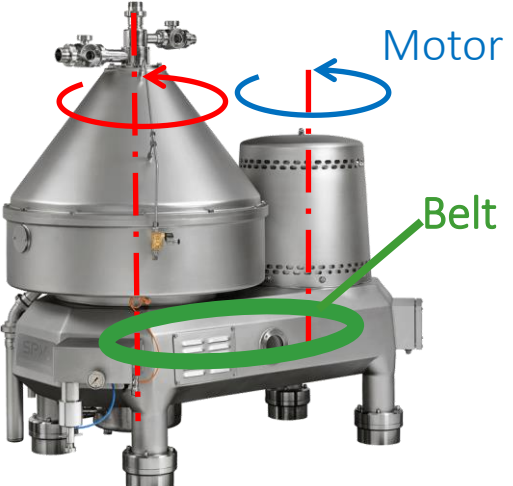
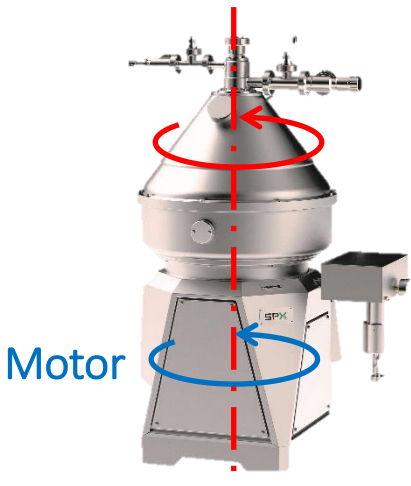
Introduction to Direct Drive

Direct to the future



Introduction to Direct Drive

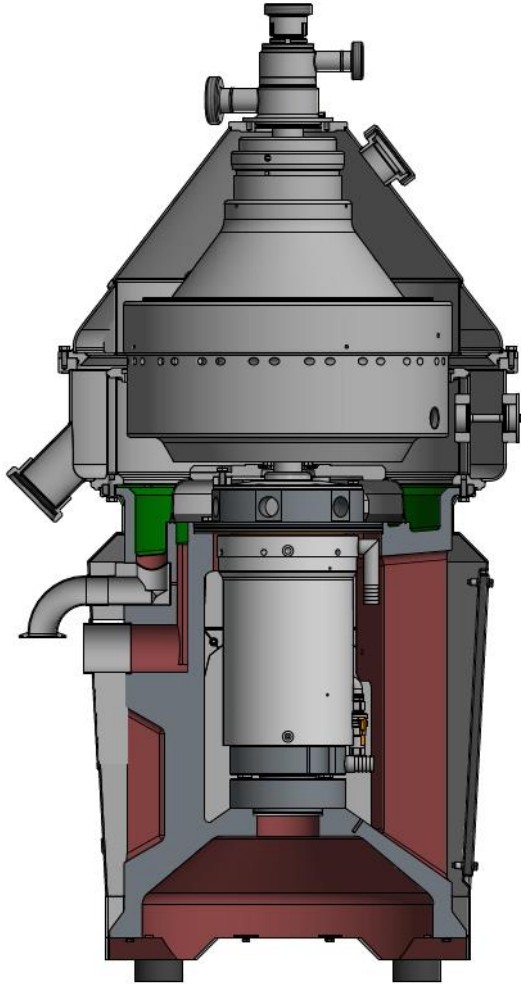
Efficiency of drive systems

Gear drive	Belt drive	Direct drive
		
<p>$\eta \leq 80\%$</p>	<p>$\eta \approx 90\%$</p>	<p>$\eta \geq 93\%$</p>

Total efficiency $\eta = \eta_{\text{motor}} * \eta_{\text{clutch}} * \eta_{\text{gear}}$

Introduction to Direct Drive

Benefits



- Very easy assembly (complete bearing unit including motor is inserted into the frame from the top)
- Very easy maintenance
- Latest motor technology
- High efficiency motor
- Reduced energy consumption
- Reduced noise level
- Reduced number of parts
- Reduced footprint (35% less space requirement)

Introduction to Direct Drive

Summary of Features and Benefits

Feature	Benefits
Direct Drive Transmission	Reduced energy consumption Latest high efficiency motor technology
Reduced number of parts (compared to gear transmission)	Reduced noise levels Longer interval between bearing replacement
Motor cartridge assembly	Reduced Maintenance time / cost - complete bearing unit including motor is inserted into the frame from the top
Compact design	Reduced footprint -35% less space requirement
Performance condition monitoring (Vibration and bearing temperature)	Reduced unscheduled maintenance Protects your investment
Integrated with Seital skids and control solutions	Proved applications performance

**Direct Drive - delivering value to your process
= Lower total cost of ownership**

Introduction to Direct Drive

Which machines?

For the moment, only certain machine sizes can be produced using the Direct Drive motor. They are the ones of the same size of the SE20X, SE30AX and SE35, for all applications (except cold milk).

Since the technology is new, the machine with and without direct drive has a different in price.

The direct drive machines price is **around 5% higher** than the standard machines, but considering the benefit of the direct drive, the investment will return very quickly to the buyer (only few years).



Introduction to Direct Drive

Which machines?

Summary below for new machines with direct drive motor.

Standard model	Direct drive model	Application	Capacity
SE20X-Q3	SD80-EVO	Dairy – Skimmer	8000 l/h
SE30AX-Q3	SD105-EVO	Dairy – Skimmer	10500 l/h
SE35X-Q3	SD140-EVO	Dairy –Skimmer	14000 l/h
SE21X-Q3	CD120-EVO	Dairy – Clarifier	12000 l/h
SE25X-Q3	CD150-EVO	Dairy – Clarifier	15000 l/h
SE208BX-Q3	BD60-EVO	Dairy – Bactofuge	6000 l/h
SE305BX-Q3	BD80-EVO	Dairy – Bactofuge	8000 l/h
SE355BX-Q3	BD100-EVO	Dairy – Bactofuge	10000 l/h
SE20CX-Q3	COD25-EVO	Dairy – Cream concentrator	2500 l/h
SE30ACX-Q3	COD35-EVO	Dairy – Cream concentrator	3500 l/h
SE35CX-Q3	COD50-EVO	Dairy – Cream concentrator	5000 l/h
SE302ABOX-Q3	SB15-EVO	Dairy – Butter oil concentration / purification	1500 kg/h

Standard model	Direct drive model	Application	Capacity
SE201EIV-Q3	CW130-EVO	Wine – Clarifier	13000 l/h
SE201HBIV-Q3	CB140-EVO	Beer- Clarifier	14000 l/h
SE201EIV-Q3-Tea	CT50-EVO	Tea – Clarifier	5000 l/h
SE202WCV-Q3	COI60-EVO	Industrial – Concentrator	6000 l/h
SE202MOV-Q3	PI60-EVO	Industrial – Purifier	6000 l/h
SE201CHV-Q3	SN150-EVO	Nozzle separator	15000 l/h (hydraulic)
SE204VOV-Q3	SV70-EVO	Vegetable oil – Separator	70 d/l
SE404VOV-Q3	SV100-EVO	Vegetable oil – Separator	100 d/l
SE201BIOV-Q3	CBIO20-EVO	Biotechnology – Clarifier	2000 l/h
SE202CWV-Q3	COCW40-EVO	Coconut water – Concentrator	4000 l/h
SE352CWV-Q3	COCW80-EVO	Coconut water – Concentrator	8000 l/h
SE202CMV-Q3	COCM20-EVO	Coconut milk – Concentrator	1500 ÷ 2500 l/h
SE352CMV-Q3	COCM40-EVO	Coconut milk – Concentrator	3000 ÷ 5000 l/h
SE202COPV-Q3	PCO20-EVO	Coconut oil – Purifier	1500 ÷ 2000 l/h
SE352COPV-Q3	PCO25-EVO	Coconut oil – Purifier	1800 ÷ 2500 l/h
SE352POX-Q3	COE35-EVO	Essential oil – Separator	/

Notes

- Seital will continue to offer existing gear models in the direct drive applictaion range until further notice
- Direct drive brings strong benefits therefore is now the lead customer offering for available capacities.
- Take care not to promote direct drive for capacities not yet available

Introduction to Direct Drive

New names

With the new direct drive machines, SPX FLOW will start to use **new names**.
For the moment, only the direct drive machines will have these new names.

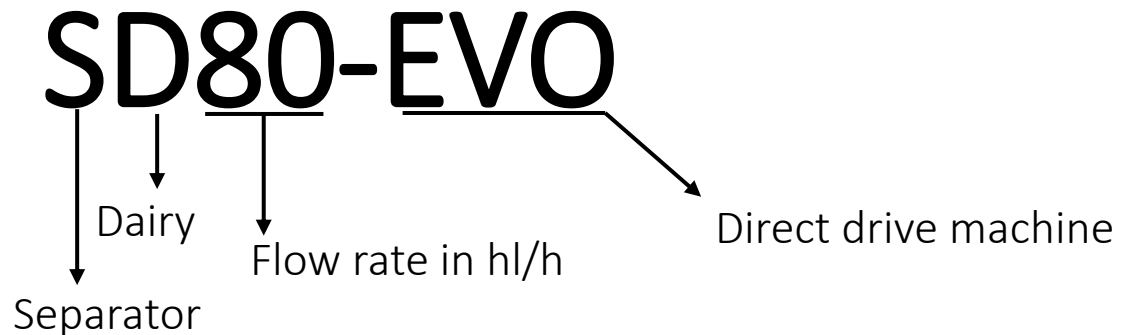
Let's make an example.

Standard machines

SE20X-Q3
(8000 l/h milk standardization)








Direct Drive machines



Introduction to Direct Drive

Other names

SE21X-Q3		CD120-EVO (Clarifier Dairy 120 hl/h)
SE305BX-Q3		BD80-EVO (Bactofuge Dairy 80 hl/h)
SE201EIV-Q3		CW130-EVO (Clarifier Wine 130 hl/h)
SE201HEIV-Q3		CB140-EVO (Clarifier Beer 140 hl/h)
SE201BIOV-Q3		CBIO20-EVO (Clarifier Bio 20 hl/h)

Introduction to Direct Drive

Chiller – a new option for direct drive machines



A chiller can be integrated into the scope of supply to cool the water used by the direct drive motor.

The motor is cooled by water. For an optimal functionality of the machine the cooling water must have a temperature below 30°C. If the water had a higher temperature, the chiller is indispensable to cool the water and so the motor of the machine.

The chiller will be positioned by the customer in the proximity of the machine and it will be turned on before the machine.