



www.soliqz.com
Crystallization, Separation, Purification

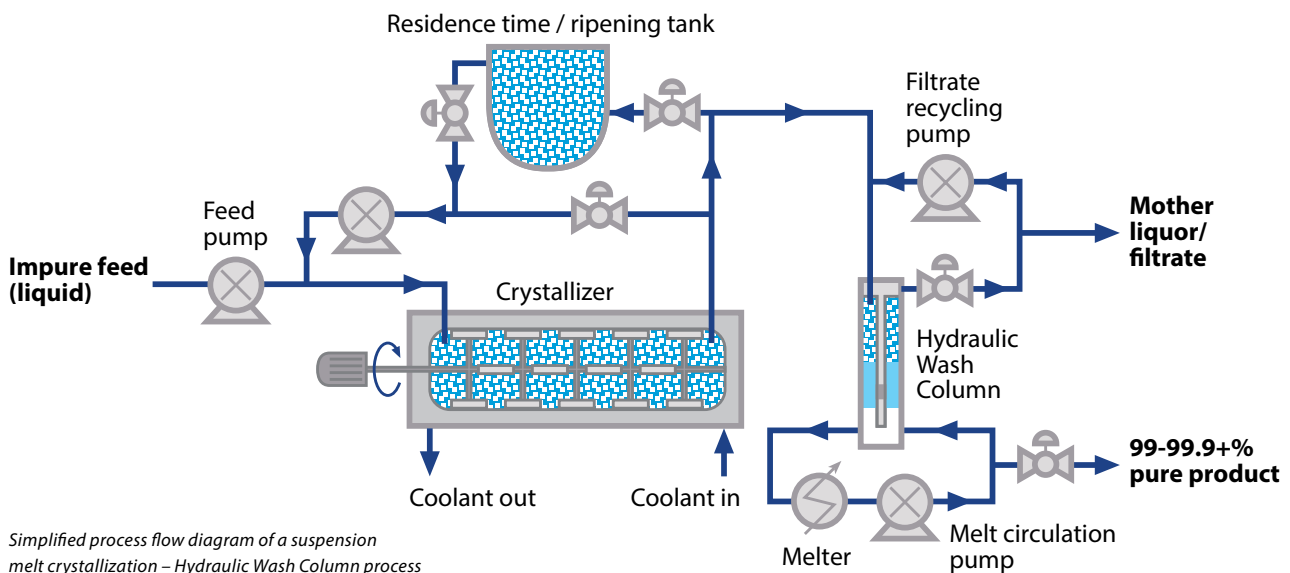
www.armstrong-chemtec.com
Heat transfer specialists



**Armstrong
Chemtec Group**
USA SCOTLAND SINGAPORE NETHERLANDS

MELT CRYSTALLIZATION AND HYDRAULIC WASH COLUMN

A versatile process for high purity chemicals
and pharmaceutical intermediates



SoliQz support in development and implementation

- Lab scale batch crystallization / mini wash column
- Pilot plant trials (at SoliQz)
- Scale up
- Supply of turn-key industrial scale equipment (in close co-operation with Armstrong-Chemtec)



Pilot plant at SoliQz B.V.

Lab scale batch crystallization

Characteristics

- Determination of solubility curves
- Size and shape of the crystals
- Indication for filtration and purification

Lab scale mini-HWC

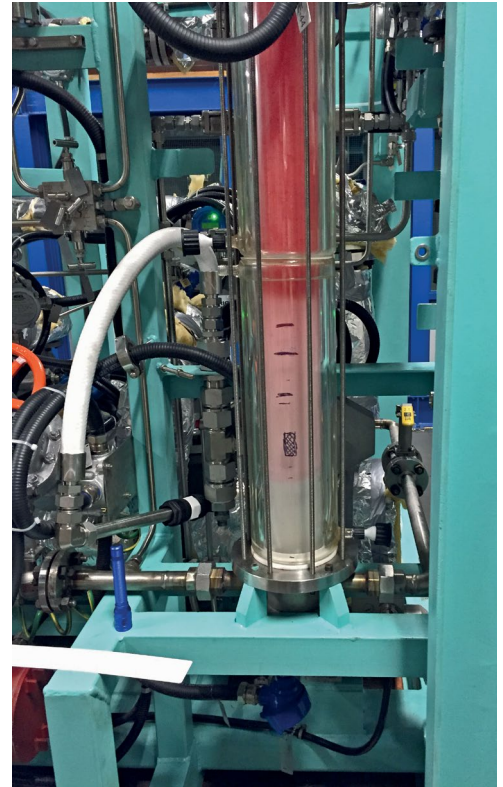
Characteristics

- Quick crystallization scans
- Pre-feasibility studies for proof of principle for purification
- Simple continuous operation

Ultra purification using melt crystallization and the HWC

Characteristics

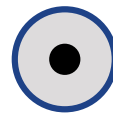
- Truly continuous solid liquid separation
- Purification: typically $\geq 99.9\%$ in 1 step
- Low energy consumption (20% to 90% saving compared to distillation)
- No wash liquid consumption
- Successful demonstration for many organic compounds
- No rotating/moving parts in Hydraulic Wash Column



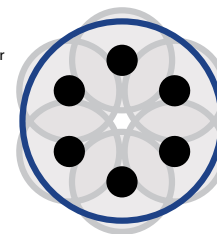
Scale up to industrial scale

Numbering up filter pipes to increase from laboratory to production scale

Code	Diameter (cm)	Tubes	Capacity (kg/hr)
HWC-2	2 (in industry)	0	1-10
HWC-8	8 (new pilot plant)	1	5-175
HWC-15	15	6	50-650
HWC-30	30 (in industry)	16	200-2 500
HWC-55	55 (in industry)	50	1 000-9 000
HWC-110	110 (under construction)	200	4 000-36 000



d column = 8 cm
1 filter tube
capacity = 5-175 kg/hr



d column = 15 cm
6 filter tubes
capacity = 50-650 kg/hr

Design and construction of equipment is carried out in close co-operation with Armstrong-Chemtec



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Industrial reference installation with mini HWC



Industrial reference installation with HWC-55