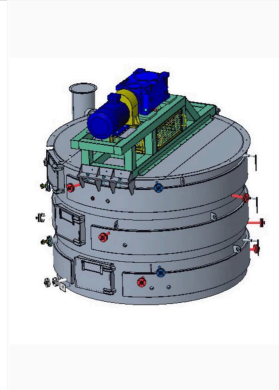


TECHNICAL BROCHURE · COOKERS

RS cookers

High-quality equipment for processing oilseeds: high capacity and increased wear resistance.

**25–1000**

t/day, sunflower seed

Ø 2000–5000

mm inner diameter

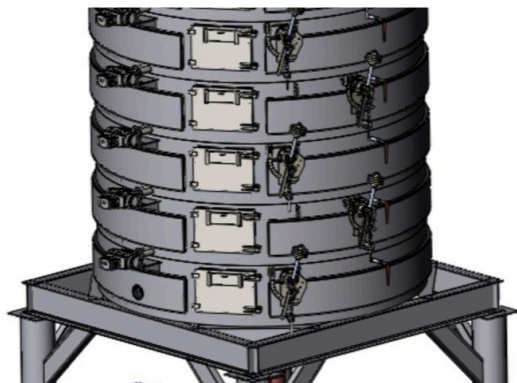
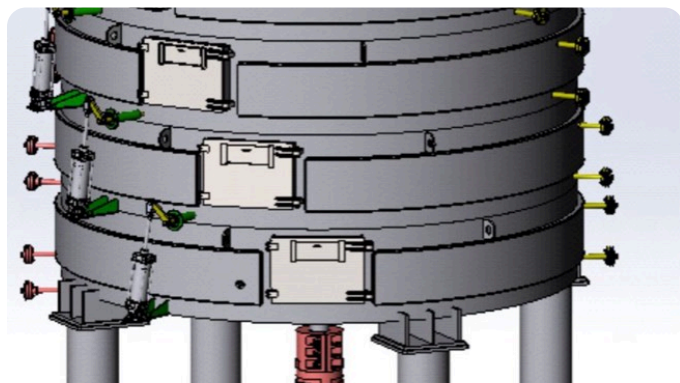
3–11

vats per column

The D.ENERGY cooker is high-quality equipment for processing oilseeds to obtain oil as efficiently as possible. Its key advantages are high capacity and increased wear resistance.

D.ENERGY produces equipment of different types, classes and required configurations, taking all customer wishes into account. Our own production base allows us to make cookers with an inner diameter of 2000 to 5000 mm and 3, 6 or 11 vats.

You can order a cooker with a capacity from 25 to 1000 t/day, depending on the type of raw material, your plant's capacity and other factors.



Purpose and process

The cooker conditions oilseeds before pressing so that oil is extracted as effectively as possible. Processing of the feed in the cooker involves these main operations:

- heating the mash in the vats by heat transfer from steam jackets;
- stirring the mash with knife agitators as it heats;

- moving the mash with the agitator blades through the bottom bypass mechanisms from the upper vats to the lower ones, where it keeps heating while being mixed;
- moistening the mash with live steam in the first vat, if required;
- removing excess moisture from the vats by aspiration.

Design

The cooker is a vertical column of several vats stacked one above another. Each vat consists of a shell and a bottom, both with steam jackets. Steam circulates continuously inside the system, giving up its heat to the vats and heat-treating the mash. To keep the raw-material level equal in all vats, the cooker has a system of control valves. An automatic parameter-monitoring system regulates the temperature of the material at the outlet; manual control is also possible. Each vat has an agitator on a vertical shaft driven by a gear motor.

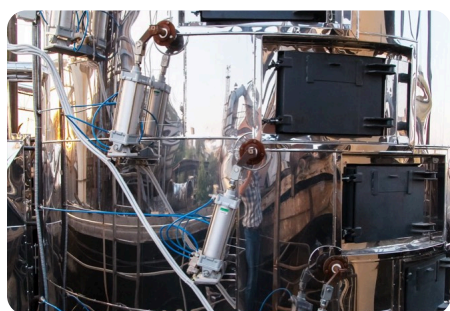
Cookers are made of structural low-alloy steel grade 09G2S, which is highly wear-resistant and withstands temperatures from -70 to $+425$ °C under long-term loads. The cooker shaft is made of 3-group packing, hardness 270 HB, steel 40Kh.

The cooker is built with thickened metal, $s = 12...16$ mm, which provides the required working steam pressure and durable construction. The aspiration pipe is made of stainless steel for corrosion resistance.

The material level is regulated by pneumatic valves. The layout of the overflow valves makes the most of the bottom area. Live steam is supplied to the upper and lower vats for even steam moistening of the mash. Intermediate bearing units have an external lubrication system. The discharge device in the bottom of the lower vat ensures even unloading.

The drive can be located at the top or at the bottom. The position of the aspiration pipe, discharge pipe and the steam inlet and outlet fittings can be agreed when the technical specification is drawn up.

To avoid malfunctions, the cooker is always installed in a closed room protected from external influences. Gases released during operation are removed through dedicated aspiration pipes; each section has its own pipe, and they merge into a single air duct at the outlet.



Specifications

Heat carrier in the vat jackets

Nominal working pressure 0.60 MPa (6.00 kgf/cm²); design 0.62 MPa (6.20 kgf/cm²); test 0.84 MPa (8.40 kgf/cm²).

Vat wall and bottom temperature

Maximum allowable working 164.3 °C; design 200 °C. Outlet temperature up to 120 °C.

RS cooker size range (full) **40**

Model	Inner Ø, mm	Vats, pcs	Column height, mm	Vat height, mm	Heating area, m ²	Drive, kW	Speed, rpm	Internal volume, m ³	Capacity, t/day	Weight w/o drive, t
RS.203	2000	3	1650	550	9.3	11	28	3.3	25	4.5
RS.204	2000	4	2200	550	12.5	11	28	4.4	35	—
RS.205	2000	5	2750	550	15.7	18.5	28	5.5	50	—
RS.206	2000	6	3300	550	18.9	18.5	28	6.6	55	8.5
RS.207	2000	7	3850	550	22.1	22	28	7.7	65	—
RS.208	2000	8	4400	550	25.3	22	28	8.8	80	—
RS.224	2200	4	2400	550	15	22	25	5.28	50	—
RS.225	2200	5	3000	550	18.9	22	25	6.6	55	—
RS.226	2200	6	3600	550	22.7	30	25	7.92	65	—
RS.227	2200	7	4200	550	26.5	30	25	9.24	80	—
RS.228	2200	8	4800	550	30.4	37	25	10.56	100	—
RS.229	2200	9	5400	550	40.4	37	25	11.88	160	—
RS.253	2500	3	1800	600	15.2	22	23	4.5	50	7.5
RS.254	2500	4	2400	600	20.4	22	23	6	60	9.6
RS.255	2500	5	3000	600	25.5	37	23	7.5	85	11.8
RS.256	2500	6	3600	600	30.4	37	23	9	100	14
RS.257	2500	7	4200	600	35.7	37	23	10.5	140	16.2
RS.258	2500	8	4800	600	40.8	45	23	12	170	19
RS.259	2500	9	5400	600	45.9	45	23	13.5	200	21.5
RS.313	3100	3	1800	600	23.7	30	18	5.58	65	11
RS.314	3100	4	2400	600	31.6	30	18	7.44	100	14.5
RS.315	3100	5	3000	600	39.5	55	18	9.3	160	18
RS.316	3100	6	3600	600	47.4	55	18	11.16	200	21.5
RS.317	3100	7	4200	600	55.3	55	18	13.02	230	25
RS.318	3100	8	4800	600	63.2	90	18	14.88	270	29
RS.319	3100	9	5400	600	71.1	90	18	16.74	300	33
RS.405	4000	5	4000	800	60	90	13	16	260	—
RS.406	4000	6	4800	800	72	90	13	19.2	300	—
RS.407	4000	7	5600	800	84	90	13	22.4	350	—
RS.408	4000	8	6400	800	96	110	13	25.6	400	—
RS.409	4000	9	7200	800	108	110	13	28.8	450	—
RS.455	4500	5	5100	900	64	110	11	22.95	350	44.5
RS.456	4500	6	6000	900	81.5	110	11	27	380	51.5
RS.457	4500	7	6900	900	90	110	11	31.05	450	58.5
RS.458	4500	8	7800	900	102.4	132	11	35.1	500	65.5
RS.459	4500	9	8700	900	115.2	132	11	39.15	600	72.5
RS.506	5000	6	6000	900	102	132	11	30	500	—
RS.509	5000	9	8700	900	153	160	11	43.5	800	—
RS.511	5000	11	10500	900	187	200	11	52.5	1000	—
RS.512	5000	12	11400	900	204	220	11	57	1100	110.5

Vat height is 550–900 mm depending on diameter. Data from the D.ENERGY catalog; "—" means the value is not specified.

Need a calculation or a quotation?

Send us your requirements — we will select the model for your raw material and capacity.

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