AGITATOR
FOR # 114215

EKATO

KDN.POS: Pos.400 409 419

AGITATOR SPECIFICATION: BN:511.44202.00

Type EM 100 D

The design is based on the following operating conditions:

PRODUKT DATA:

Density	1300 kg/m3
Viscosity	100 mPa s

VESSEL DATA:

Volume	7,17 m3
Diameter	1800 mm
Overall height	3300 mm
Filling height	2950 mm
Bottom shape	dished
Lid shape	dished

PROCESS DATA:

Working temperature:	140 degrees Celsius
Working pressure (absolute):	1 bar

The agitator is designed to operate at any liquid surface and can therefore be operated during charging and discharging of the vessel.

ELECTRIC MOTOR = to be provided by customer
IEC size 160L
P = 13,50 kW, n = 1752 min-1,
power supply 3x440 V, 60 cycl.
direct switching, protection class IP 54 EExeIIT3
insulation class B,construction form V1
max ambient temp. = 40 degrees Celsius.
Motor with protection cap.
Sense of rotation seen from drive to impellers: clockwise.

EKATO FLAT HELICAL GEAR REDUCER
with solid shaft, oil-dip-lubrication, without oil filling, air-cooling
i = 20,17, n2 = 87 min-1
The EKATO -FLAT REDUCTOR SPUR GEAR manufactured in space saving method of construction is adapted to special requirements of agitators: starting shock, dynamic load, transmission of occurring forces.Utilizing casehardened and ground gears, a low noise run can be achieved. The great depth of case and a hardness of

HRC 60-62 guarantee high resistance to wear for the wide teeth.
The elastic core makes them insensitive to shock loads.
The modern designed gear housing - oil and dust-proof - is built for rough continuous operation and consists of high grade grey cast. The agitator drive is suitable for the transmission of all ocurring forces.

AGITATOR BEARING:
rigid cast iron housing with tapered sleeve roller according to DIN 28162.
Bearing shaft made of mild steel, to product side of stainless steel DIN matl. no. 1.4571.

Bearing shaft with flange coupling 185 diameter, according to DIN 28155 incl. fixing elements.
Top connection of the bearing shaft pinion according to DIN 28154 for fixing of the splitted flange coupling.
Calculated life time of the antifriction bearing under consideration of the occurring radial and axial forces:
Lh 90 more than 25.000 operating hours.

AGITATOR MOUNTING:
mounting flange, connecting dimensions to ANSI (ASA) B 16.5 for 14", 150 lb/sq.in, furnished without screws.
Design with raised face.
Material: mild steel, tankside clad with stainless steel DIN matl. no. 1.4571.

SHAFT SEALING: - lateral diassembly possible -
air-cooled, double acting EKATO mechanical seal unit type RD 34-V.
Seal housing made of age hardened ligth alloy, seal rings product and atmospheric side made of gastigth special carbon.
Storage and expansion vessel for sealing liquid made of ligth alloy with 2 level indicators, ready for operation.
Cooling water connection on site.
Connecting pipes between storage vessel and sealing chamber made of stainless steel DIN matl. no. 1.4571.
Other tankside parts are made of stainless steel DIN matl. no. 1.4571.

O-rings product side made of Viton coated with PTFE
atmospheric side made of Viton.
Sealing liquid: glycerol.
This mechanical seal has been developed especially for agitator operation with the following features:
Low maintenance - small leckage - long life span - high operational safety.

AGITATOR SHAFT:
Solid, L = 3100 mm, Dia. = 100 mm,

top connection with flange coupling 220 mm diameter, smooth end.
Material: stainless steel DIN matl. no. 1.4571.

Safe agitator operation is guaranteed due to sufficient distance between the operational speed and the natural frequency of the agitator shaft..

IMPELLER:
3 EKATO-Interference flow-agitator INTERMIG, d2 = 1200mm (inland and international patents applied for) inner blade down-thrust.
Mounted by means of special EKATO set screws on smooth agitator shaft.

Distance between the centers of the impeller stages: approx. 750 mm. Changes of distance only after prior contact with EKATO.
Distance between vessel bottom and lowest point of the impeller approx. 350 mm.
Material: stainless steel DIN matl. no. 1.4571.
Vessel opening required to pass impeller:
minimum 330 mm diameter.

SURFACE TREATMENT:
metallic parts being in contact with the product are glass blasted and protected, shafts are ground.
The external components are protected with neutralizing primer and DD-lacquer RAL RAL 6011.

AGITATOR ARRANGEMENT:
vertical in center of upright tank, on tank weld neck flange 14", 150 lb/sq.in, to be sufficienty reinforced.
Nozzle height: 150 mm.

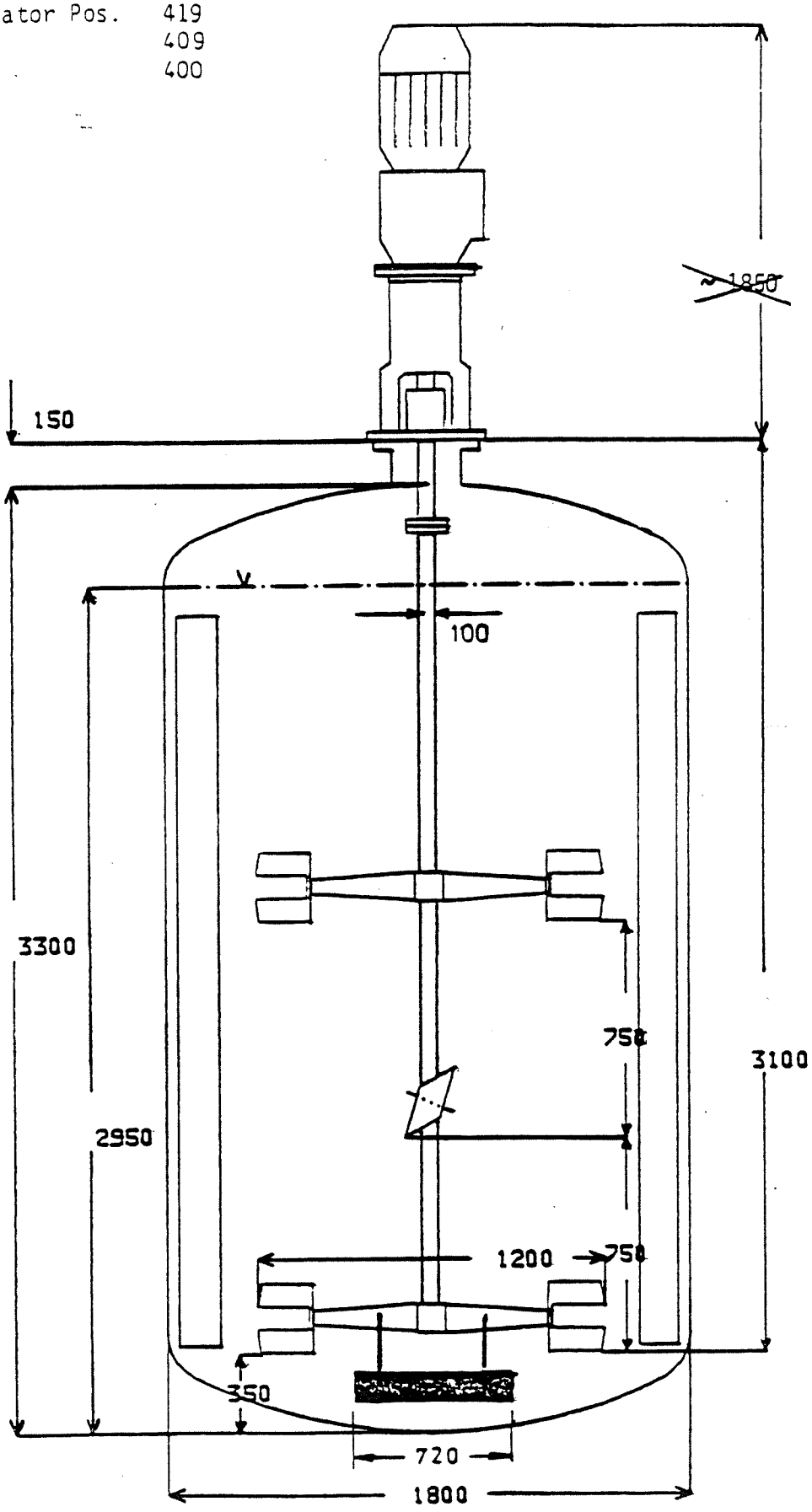
VESSEL INSTALLATIONS:
In order to achieve a proper function of the agitator 2 baffles are essential:
length 2500 mm, width 140 mm, wall distance 40 mm, to be provided on site.

MATERIALS:
The materials to product side have been selected as specified by you.

TEST:
before shipment, the agitator undergoes a test in our works.

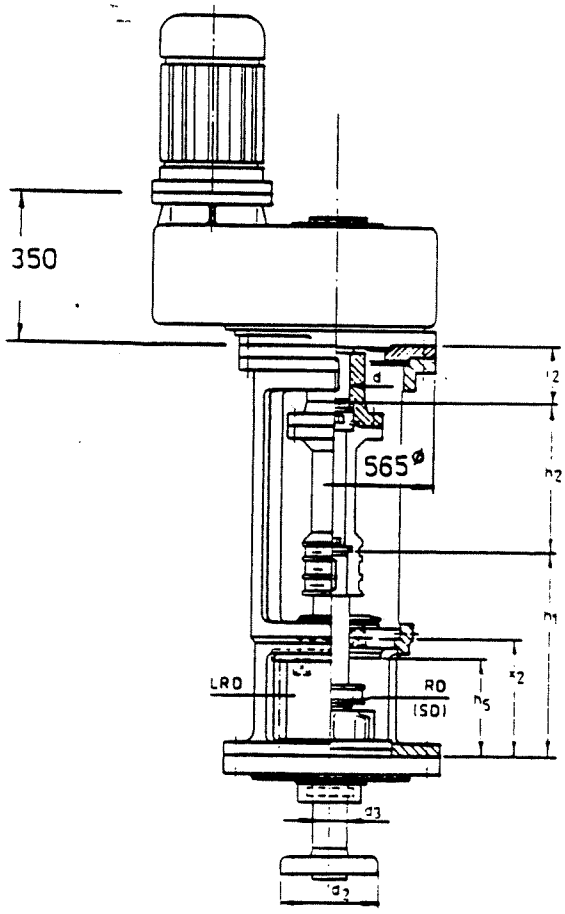
EKATO	Norm-Rührwerk Typ EM 100 D	Massblatt BN: 511.44203.00

Kristallisator Pos. 419
409
400

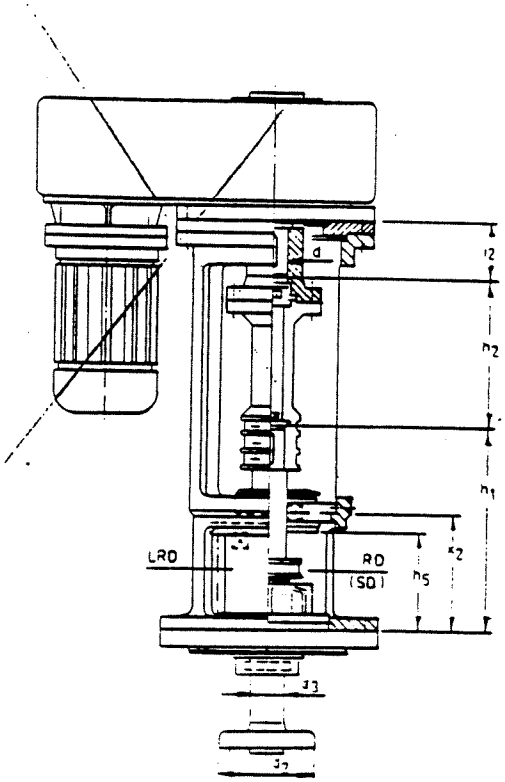


Dieses EKATO-Rührwerk erlaubt den seitlichen Ausbau von Zwischenwelle, Lagerung und Dichtung ohne das Getriebe in seiner Lage zu verändern.

EKATO



Flachgetriebe mit Motor V1



Flachgetriebe mit Motor V3

Typ	d_3	Abmessungen D	H_L	J_2	b	c	d_2	h_D	h_5	x_2	h_2	h_1
HWL	040	250	735	332	24	80	110	250	233	262	294	385
HWL	050	340	795	332	24	100	130	255	238	270	304	415
HWL	060	395	835	332	24	120	145	270	243	277	324	425
HWL	080	445	940	440	30	150	185	290	244	285	344	480
HWL	100	565	1070	440	30	175	220	290	268	320	385	545
HWL	125	830	1265	500	30	277	270	305	316	375	405	635
HWL	140	830	1265	500	30	277	300	340	315	368	405	635
HWL	160	1030	1370	500	30	280	340	340	340	398	440	705
HWL	180	1030	1560	510	40	315	365	340	424	487	470	830
HWL	200	1030	1560	510	40	315	400	340	411	481	470	830
HWL	220	1030	1655	510	40	330	450	360	451	521	480	915
HWL	240	1130	1920	520	50	370	500	380	548	625	480	1125
HWL	260	1130	1920	520	50	370	550	380	536	619	480	1125
HWL	280	1130	1980	520	50	380	590	395	510	608	480	1175

d_3 = *Durchmesser des Wellenendes*