

# ED(R)-30

## ELECTRODIALYSIS STACK

PROCESS CORE OF ELECTRODIALYSIS TECHNOLOGY FOR MEDIUM UP TO HIGH-CAPACITY WATER TREATMENT INDUSTRIAL APPLICATIONS:

- Cooling tower make-up or blowdown
- Nitrate removal
- Potable water treatment
- Condensate treatment in fertilizer production
- Paper machine wastewater
- Different types of low TDS industrial wastewaters

### DESCRIPTION

High-capacity single-pass electro dialysis stack of desk type with electrode polarity reversing to decrease fouling and scaling risks.

ED(R)-30 is the newest approach to traditional low TDS applications and represents 30+ year of experience with electro dialysis technology. New design improves on electrical stability,

maintenance and introduces new features including new completely transparent covers.

Electrodialysis stack is the core of RALEX EWTU technology – series P, M and Twinline90.

### CAPACITY

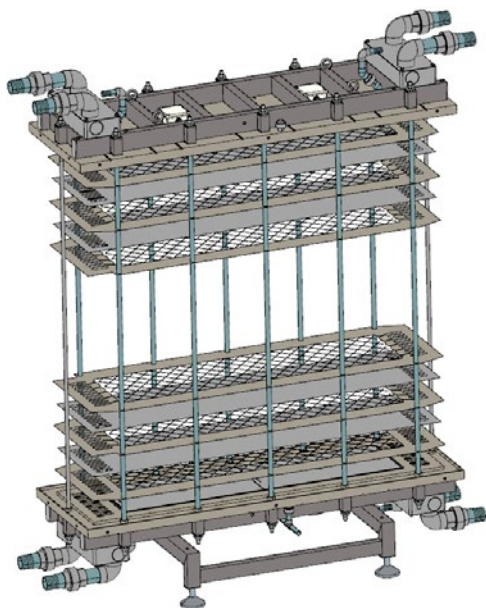
Operating flow rate up to 60 m<sup>3</sup>/hour.

### STRUCTURE

1. Tightening boards with built in electrodes and collectors
2. Electrodes
3. Ion-exchange RALEX membranes
4. Spacers
5. Tie-rods, washers and nuts
6. Assembly pins

### FEATURES

- Flowrate up to 60 m<sup>3</sup>/h
- Large membrane area
- Modular sizes from 100 till 600 cps
- Long-life electrodes
- Minimized internal and external leakages
- Transparent covers
- Stainless steel frames
- Minimized maintenance
- Adjustable connectors



Electrodialysis stack ED(R)-30



**ralex**<sup>®</sup>  
MEMBRANES

# ED(R)-30

## ELECTRODIALYSIS STACK

### SPECIFICATIONS

Stack family	ED(R)-30
Types	ED(R)-30/100, ED(R)-30/150, ED(R)-30/200, ED(R)-30/250, ED(R)-30/300, ED(R)-30/350, ED(R)-30/400, ED(R)-30/450, ED(R)-30/500, ED(R)-30/550, ED(R)-30/600
Min. no. of cell-pairs	100
Max. no. of cell-pairs	600
Anion-exchange membrane	RALEX AM(H)-PES, AM(H)-PP
Cation-exchange membrane	RALEX CM(H)-PES, CM(H)-PP
Spacer thickness [mm]	0.8
Electrodes	EDR = 4 pcs Ti/Pt, ED = 2 pcs Ti/Pt + 2 pcs SS
Hydraulic connection D,C [mm]	d 60
Hydraulic connection E [mm]	d 25
Dimensions of swollen membranes (L × W × T) [mm]	1,610 × 400 × 0.57
Total installed membrane are (m <sup>2</sup> )	131.2–772.8

### OPERATING PARAMETERS

Cell-pairs	ED(R)-30											
	100	150	200	250	300	350	400	450	500	550	600	
Length [mm]	1,780											
Width [mm]	965											
Height [mm]	950	1085	1220	1355	1490	1625	1760	1895	2030	2165	2300	
Weight of empty stack [kg]	445	505	565	625	685	745	805	835	925	985	1045	
Weight of water filled stack [kg]	525	625	725	825	925	1025	1125	1225	1325	1425	1525	
Max. voltage [V]	1 V per cell-pair up to 500 V (max.)											
Max. electric current [A]	100 A for EDR-30/100 till EDR-30/250, 60A for EDR-30/300 and above											
Operating flow rate D,C [m <sup>3</sup> /hour]	6-8	9-12	12-16	15-20	18-24	21-28	24-32	27-36	30-40	33-44	36-48	
Min./max. flow rate D,C [m <sup>3</sup> /hour]	5/10	7,5/15	10/20	12,5/25	15/30	17,5/35	20/40	22,5/45	25/50	27,5/55	30/60	
Operating flow rate E [m <sup>3</sup> /hour]	2 × 0.75											
Min./max. flow rate E [m <sup>3</sup> /hour]	2 × 0.4 / 2 × 2.0											
Operating salt cut [%]*	40–60											
Min./max. salt cut [%]	20/75											
Max. inlet pressure [kPa]	250											
Max. pressure loss of D,C on 25oC [kPa]	120											
Max. pressures difference in D,C [kPa]	10											

\* desalination cut is bound to feed water composition and temperature. Scale Lab projection must be completed by MEGA personnel for proper system design and performance guarantee.