EV4 Quick Start Guide (SW≥1310): Sheet 1- Set up

1) INPUT Motor parameters (E1-xx & E2-xx) Prog. menu

How? Set **A1-01** to **2** (allows access to all **E1** and **E2** parameters). Input ***E1-xx*** and ***E2-xx*** parameters, which are given for **ELMO** motors in the **EV4 User Manual** Annexure 1. For other motors perform **Auto Tuning** (Refer to EV4 User Manual, page 23) or ask for support from Blain Hydraulics. **Set A1-01 back to 3** (eases set-up procedure by accessing only necessary parameters).

2) CHECK the direction of motor rotation → Programming menu

How? Give only levelling speed signal from the controller and observe the movement or hear the pump noise. If motor rotates in reverse direction correct go to parameter ***b1-14*** and change its setting (eg. If b1-14 is 1 then set it to 0 or vice versa).

3) CHECK oil temperature Monitor Menu → Insure that the temperature sensor is in oil

MAKE SURE THAT OIL TEMPERATURE IS BETWEEN 18°C AND 30°C

How? Read oil temperature [°C] from ***U7-02***. For that, go to "**Monitor Menu**", press **ENTER** and change ***U1-01*** parameter to ***U7-02***. If reading is much different than the real oil temperature (like ±50°C) in the tank, **check the connections of temperature converter** (See pages 12 or 15 in EV4 User Manual).

4) OBTAIN pump parameters (*P1-11* to *P1-15*) → Programming menu

How? Go to www.blain.de/calc or install EV4 Calculator Android app. **SELECT oil** and **motor type** from **Table 1**, **INPUT lift data** in **Table 2** and **OBTAIN** pump parameters from **Table 3**.

5) INPUT lift data into the drive

How? Go to Programming menu → Select ***P1*** parameters → *Press ENTER*→ Input the value for ***P1-01***→ Press ENTER. Do this for all ***P1-xx*** parameters. An example is given below.

Please turn over

P1 Parameter	Parameter description	Example	Parameter type
P1-01	Hydraulic Oil ISO VG Number	3: ISO VG 46	Oil parameters
P1-02	Temperature at 100 cSt	25°C	
P1-03	Temperature at 25 cSt	55°C	
P1-04	Ram Diameter	85mm	Lift parameters
P1-05	Number of rams	1	
P1-06	Suspension Ratio	1	
P1-07	Empty car static pressure	18bar	
P1-08	Pay load	1000kg	
P1-09	Dynamic pressure in-crease	3	
P1-11	Flow at 100cSt & at max. Pressure	72,7 l/min	Pump parameters (obtain them from www.blain.de/calc)
P1-12	Flow at 25cSt & at max. Pressure	64,2 l/min	
P1-13	Pump Rated Speed	2750	
P1-14	Flow at empty car pressure & at 100cSt	76,2 l/min	
P1-15	Flow at 1 bar pressure & at 100cSt	81,3 l/min	
P1-16	Nominal speed	0,40 m/s	Speed parameters
P1-17	Intermediate speed	0,35 m/s	
P1-18	Inspection speed	0,30 m/s	
P1-19	Leveling speed	0,06 m/s	

6) INPUT deceleration parameters (*C1-02*, *C2-03* and *C2-04*)

How? From **Table 2** read the values of ***C1-02, C2-03*** and ***C2-04*** and input them into the drive *(Go to Prog. menu → Select **Cx-xx** parameters → Press ENTER → Modify the value → Press ENTER).*

7) SET *P4-01* to *1* (Perform basic calculations)

How? Go to Prog. menu → Select ***P4-01*** parameters → *Press ENTER* → Set the value to ***1*** → Press ENTER (after pressing ENTER the value automatically returns to 0)

8) MAKE SURE that lift is empty and the shaft switch distances will allow levelling travel

(See page 33 and correct deceleration switch distances if necessary). To cancel teach run set ***P4-01*** to ***0***.

9) SET *P4-01* to *2* (Prepare for a teach run)

How? Go to Prog. menu → Select ***P4-01*** parameters → Set the value to **2** → Press ENTER

The red ALM LED blinks and the drive asks for an empty car teach run at nominal speed.

10) PERFORM A TEACH RUN: Send the empty car up to the next stop at nominal speed

11) SET *P4-01* to *3* (Save registered data)

How? Go to Prog. menu → Select ***P4-01*** parameters → Set the value to **3** → Press ENTER

After pressing ENTER the red ALM LED goes out.

IF NECESSARY PERFORM FINE TUNING by modifying the parameters given in page 29

***Note 1*:** It is acceptable if Auto-tuning ends with **End 1**, **End 2** or **End 3** warnings.
Note 2: The terminals **HC, H1, H2** (at the inverter) must be linked otherwise, the motor will not start for auto tuning. If the Safe Disable function is not utilized for disabling the drive, **HC, H1, H2** must also be linked.
***Note 3*:** To obtain unknown motor parameters approximately see EV4 User Manual page 54.

DELAY DEENERGIZING MOTOR CONTACTORS ABOUT 1 SECOND AFTER THE CAR REACHES THE STOP SWITCH (i.e. After Forward Run-S1 signal is removed).