



# SELF PRIMING CHEMICAL SERVICE PUMPS

## INSTALLATION AND OPERATING INSTRUCTIONS

---

This Manual covers:

**SELF PRIMING MODEL RANGE  
J50ECX TO J250ECX  
STAINLESS STEEL\*, and NON METALLIC SEAL**

**PUMP MODEL:** \_\_\_\_\_

**SERIAL NO:** \_\_\_\_\_

**TYPE OF SEAL:** \_\_\_\_\_

\* Stainless steel spring with nitrile rubbers. To be used for weak solutions and to be treated as a disposable seal.

---



Liberta House, Sandhurst, Berkshire, GU47 8JR  
Tel: 01252 876123 Fax 01252 875281  
[www.braude.co.uk](http://www.braude.co.uk) sales@braude.co.uk  
IN0021 Rev 8

## IMPORTANT

Telephone: 01252 876123 Fax: 01252 87528

1. Ensure that the Warranty card is completed and forwarded to the Manufacturer\*. On receipt the Warranty will be registered and will become operative. No acknowledgement will be sent by the Company. Failure to register within 21 days of purchase will render the Warranty null and void.
2. The Warranty covers repair or replacement within the Warranty period.
3. The Warranty only applies to the original purchaser.
4. Please refer to the operating, maintenance instructions and chemical resistance chart supplied before use.

## WARRANTY

This product has been manufactured to the highest standards using fine quality materials. Installation, operation and maintenance in accordance with the instructions and chemical resistance chart provided will ensure trouble free service.

Care should be taken that the equipment is correctly connected to current and voltage conforming with the information indicated on the label.

In the event of any defect in materials or workmanship and subject to the Company's general conditions of sale and warranty, the Company undertakes to correct at its discretion by repair or replacement, any such defect occurring within 12 (TWELVE) MONTHS\* from delivery of this equipment to the original purchaser (fair wear and tear excluded) provided the equipment is delivered carriage paid to our Works, suitably packed and insured. The Company's decision on all questions relating to alleged defects shall be conclusive.

This Warranty becomes void if repair is attempted or the equipment is interfered with by personnel other than authorised by the manufacturer, or is damaged due to accident or user's negligence, or if the Company's payment terms and any other conditions are not fully complied .

Under no circumstances will the period of the original 12 MONTHS\* warranty be extended. The Manufacturer or Supplier cannot be held responsible for claims covering consequential loss or damage. All other claims or warranties are hereby expressly excluded.



## **Chemicals Hazard Information And Packaging Regulations 2009 (Chips 4)**

To comply with the above regulations and with the Health and Safety at Work Act 1974, you must ensure that any units returned to BRAUDE are properly cleaned, sealed and packaged and are not contaminated with and do not contain any dangerous chemicals. A note advising the chemicals in which the units have been used is to be included inside the package. A charge will be made for units received by BRAUDE that require cleaning to comply with the above regulations.



Liberta House, Sandhurst, Berkshire, GU47 8JR  
Tel: 01252 876123 Fax 01252 875281  
[www.braude.co.uk](http://www.braude.co.uk) sales@braude.co.uk  
IN0021 Rev 8

## **WARNING**

Before disconnecting electrical connections ensure that electricity supply is switched off and isolated at source.

If pump has been taken out of service, ensure that the drain plug is replaced and the sealing washer is in good condition and the unit is primed for initial start-up.

Use only BRAUDE spares available ex-stock from:  
E. BRAUDE (LONDON) LIMITED.

### **NOTE:**

**NEVER WORK ON THE PUMP WITHOUT FIRST MAKING CERTAIN THAT POWER SUPPLY IS SWITCHED OFF AND ISOLATED AT SOURCE**



# INSTALLATION AND OPERATING INSTRUCTIONS

---

## I. LOCATION, FIXED DUTY

Locate the pump as close as possible to the liquid to be transferred. Provide the necessary space around the pump for inspection and servicing. If possible, allow several inches of clearance below the pump and motor to allow easy access to the bottom seal plate-to-tank fixing cap screws. These cap screws must be removed for servicing.

The pump should be mounted on a fixed and firm base by means of bolts. The ambient temperature of the location should not exceed 40°C.

## II. INSTALLATION

Connect the pump using suitable polymer pipe. The pump suction line should not be smaller than 63mm OD (2" NB). It is recommended for optimum operation that the discharge pipe is also 63mm OD. All piping must be air tight; especially that of the suction line.

Your pump is made of some of the finest engineering materials available today. A few simple precautions, taken during the initial installation, will insure many long years of trouble-free operation.

The pipe should be connected to the pump using suitable union rings with a 2<sup>3</sup>/<sub>4</sub>" BSP thread.

### **CAUTION**

**Tighten the pump fittings by hand only as much as is required to ensure a tight connection. Excessive torque is unnecessary and may cause damage to the pump – we do not recommend the use of a strap wrench or similar.**

**The weight of the pipe work should be supported independently and not carried by the pump.**

The pump motor must be wired for the proper voltage and rotation, in accordance with the wiring diagram supplied with the motor, packed inside the terminal box. All wiring should be carried out by a licensed electrician in accordance with local codes. Ensure that the motor frame is grounded. The supply voltage, phase, full line current and frequency are given on the motor rating label.

## III. ROTATION



Your pump is specifically designed to rotate in a counter-clockwise direction when viewing the motor from the pump end. Please see direction of arrow on the label fixed to the fan cover. Three-phase motors can rotate in either direction. Interchanging any two leads of a three-phase motor will reverse the rotation. Momentarily start or "bump" the motor to check the rotation of the pump shaft.

**This test has be to carried out without liquid in the pump, otherwise the impeller can be seriously damaged**

#### **IV. PRIMING**

Fill the pump tank with water or the process liquid to be pumped. This may be done by removing the strainer cover lid. When replacing this cover, caution should be taken to avoid tightening more than "hand tight" (The pump lid may be secured firmly using the tool supplied, taking care not to over tighten). BRAUDE Pumps prime themselves providing the pump tank is filled with liquid.

#### **V. OPERATION**

Should you lose the priming or process liquid accidentally or by draining purposely, it will be necessary to refill it with liquid before starting. High suction lifts, or long suction lines, require additional time and reduce the performance of the pump. Should you have difficulty, refer to the "Problem Solving Guide".

The latest engineering advancements have been incorporated into our self-lubricating shaft seal. The liquid being pumped cools and lubricates the seal. Running the pump dry will damage the seal. Always keep liquid in the pump tank. No further lubrication of the pump end is necessary.

After the pump has been filled with liquid, and the motor started, allow a few moments for the pump to start delivering liquid. If flow does not start within five minutes, stop motor and determine cause (see Problem Solving Guide). Be sure all suction and discharge valves are open when the pump is running. Operating the pump with a closed valve in the system can cause pump damage.

#### **VI. MAINTENANCE**

The strainer built into the pump should be inspected and cleaned at regular intervals. The strainer is easy to clean, remove the strainer cover lid to expose the strainer basket. Remove and clean. Inspect the cover gasket 'O' ring, if damaged, replace. Replace cover lid, "hand tight". (The pump lid may be secured firmly using the tool supplied, taking care not to over tighten).

When not in use if the pump is installed outside or in a position where temperatures will drop to below freezing point, the pump should be completely drained of all liquid by removing the drain plug, it can be stored in a strainer basket. In severe



conditions and periods of non use, the motor and impeller assembly can be removed and stored if preferred.

**IMPORTANT** - The Impeller on this pump should always be secured to the motor shaft using a suitable adhesive such as Loctite 499, or similar.

When activating the pump again, reverse the above procedure. Replace the gasket between the tank and seal plate if damaged. Install drain plug. Check the pump shaft for free movement. Prime the pump as above and check the rotation of the pump shaft.



Liberta House, Sandhurst, Berkshire, GU47 8JR  
Tel: 01252 876123 Fax 01252 875281  
[www.braude.co.uk](http://www.braude.co.uk) sales@braude.co.uk  
IN0021 Rev 8

# PROBLEM SOLVING GUIDE

---

## **SYMPTOM I - PUMP WILL NOT PRIME**

### *PROBABLE CAUSES AND RECOMMENDED ACTION:*

- a. **Suction Air Leak**  
Check that liquid is available to suction line, suction hose/pipe and connections are in good order, no air leaks. Check strainer basket is clean and unobstructed, 'O' ring gasket is in good condition, replace and tighten cover lid. Remove and inspect pump seal, replace if suspect.
- b. **No Liquid in Pump**  
Make sure pump tank is primed if new or full of liquid if used before.
- c. **Closed Valves or Blocked Lines**  
Open all valves between pump and liquid to be transferred. Clean pump strainer basket, open and check for clogging blockage.

## **SYMPTOM II - MOTOR DOES NOT TURN**

### *PROBABLE CAUSES AND RECOMMENDED ACTION:*

- a. **No Power to Motor**  
Check all power switches are on, check that fuse or circuit breaker is correctly set, check motor wiring at terminals.
- b. **Pump Jammed**  
With power off, turn shaft, it should spin freely. If not, an Electrician should investigate.

## **SYMPTOM III - LOW FLOW**

### *PROBABLE CAUSES AND RECOMMENDED ACTION:*

- Clogged strainer basket. (See SYMPTOM I).  
Suction air leak. (See SYMPTOM I).  
Closed valves or blocked lines. (See SYMPTOM I).

---

## **SYMPTOM IV - MOTOR RUNS HOT**





These motors will run hot to the touch. Thermal overload protection will function to turn off if there is an overload or high temperature problem. Excessive heat can be caused by the following:

**PROBABLE CAUSES AND RECOMMENDED ACTION:**

- a. **Low Voltage or Incorrect Voltage**  
Electrician to replace bearings in motor.

**SYMPTOM V - NOISY OPERATION OF PUMP**

*Probable Causes and Recommended Action:*

- a. **Air Leak in Suction Line**  
Check suction line. Repair any leaks.
- b. **Restricted Suction Line due to Blockage or under size pipe, result high vacuum reading at pump suction**  
Remove blockage or increase pipe size. Make sure strainer basket is clean, check all valves are open.
- c. **Foreign Matter in Pump Impeller**  
Dismantle pump and remove foreign matter from impeller.
- d. **Cavitation**  
Improve suction conditions if pump is 'starved' of flow e.g. reduce suction lift, increase pipe size and reduce number of valves and connection in pipeline. Increase discharge pressure and reduce flow by throttling back discharge valve.

**SYMPTOM VI - MOTOR OVERLOAD PROTECTION 'KICKS-OUT'**

*PROBABLE CAUSES AND RECOMMENDED ACTION:*

- a. **Low Voltage due to undersized wire or low incoming voltage**  
Electrician to check with voltmeter. Increase size of wire supply. Report low voltage to Authorities, voltage at motor must be within 10% of motor nameplate voltage.
- b. **Wrong size heaters in protection device**  
Heaters should be one size larger than the full load amps. Shown on motor rating label.

- 
- c. **Overload due to binding in pump or wrong size impeller fitted**  
Indicated by high amperage readings on motor, binding shaft. Dismantle unit and correct.



**NOTE:**

**ALL ELECTRICAL WORK SHOULD ONLY BE  
UNDERTAKEN BY QUALIFIED ELECTRICIANS**

---

**SELF PRIMING RANGE - SPARE PARTS LIST**

---



Liberta House, Sandhurst, Berkshire, GU47 8JR  
Tel: 01252 876123 Fax 01252 875281  
[www.braude.co.uk](http://www.braude.co.uk) sales@braude.co.uk  
IN0021 Rev 8

The following parts are common to all pumps in the range from J50 ECX to J250 ECX

DWG No.	COMPONENT DESCRIPTION	PART NO.
1.	COVER STRAINER, CHAMBER	4380800/1
2.	VITON 'O' RING, COVER	4552600/1
3.	STRAINER BASKET & HANDLE	4394710
4.	CASING TANK STRAINER BODY	4392410/1
5.	PIPE PLUG WITH VITON WASHER	3851200/1
6.	VITON 'O' RING FLANGE	4553000/1
10.	SEAL ASSY STAINLESS STEEL	3859200
10.	-	-
10.	-	-
10.	SEAL ASSY NON METALLIC	4287800
11.	VITON 'O' RING. BRACKET M/C TO CASING	4480200/2
12.	BRACKET M/C	4377800
13.	SUPPORT BRACKET - MOTOR	4474100
14	CAP SCREW	50683 M6
14.	HEXAGON NUT	50204 M6
14.	WASHER	50684 M6
16.	SLINGER	2848600
17.	CAP SCREW	51722 M8
17.	WASHER	51723 M8

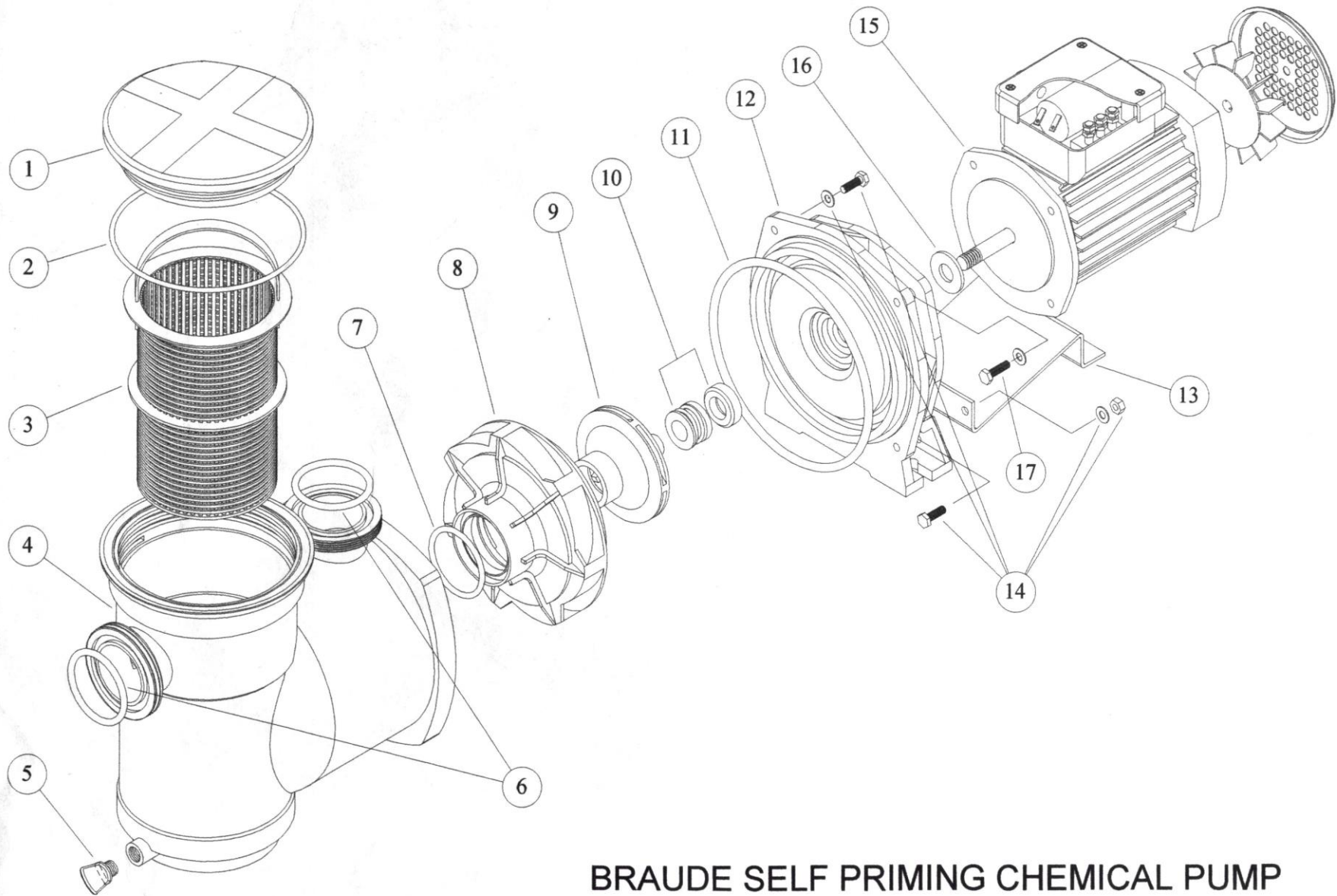
The following parts items can differ between pumps:-

Pump	No. 7 VITON 'O'RING PART No.	No. 8 DIFFUSER PART No.	No. 9 IMPELLER PART No.	No. 15 MOTOR 1PH PART No.	No. 15 MOTOR 3PH PART No.
50	2715500/1	4394300	4377200	4253000	4253500
75	4311700/1	4394400	4377300	4253000	4253500
100	4311700/1	4394500	4377400	4253000	4253500
150	4311700/1	4394600	4377500	4253100	4253600
200	4311700/1	4394600	4377600	4253200	4253700
250	4311700/1	UK00434	UK00433	UK00101	UK00102

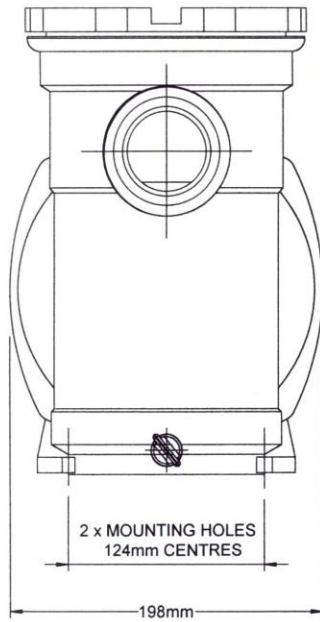
*If in doubt when ordering spare parts quote pump size and serial number.*



Liberta House, Sandhurst, Berkshire, GU47 8JR  
 Tel: 01252 876123 Fax 01252 875281  
[www.braude.co.uk](http://www.braude.co.uk) sales@braude.co.uk  
 IN0021 Rev 8



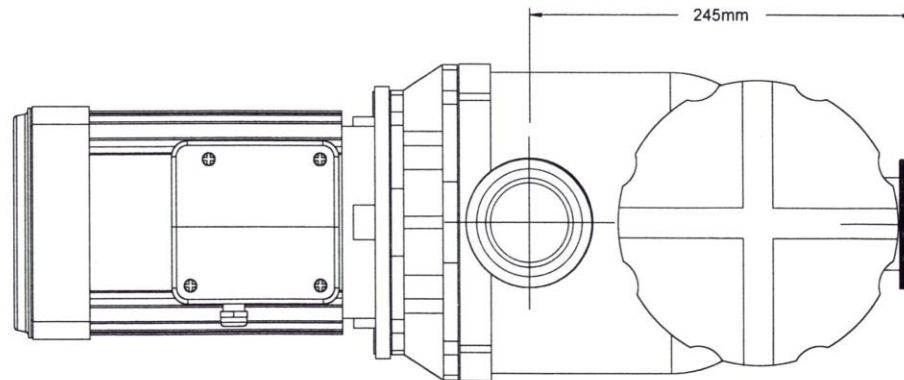
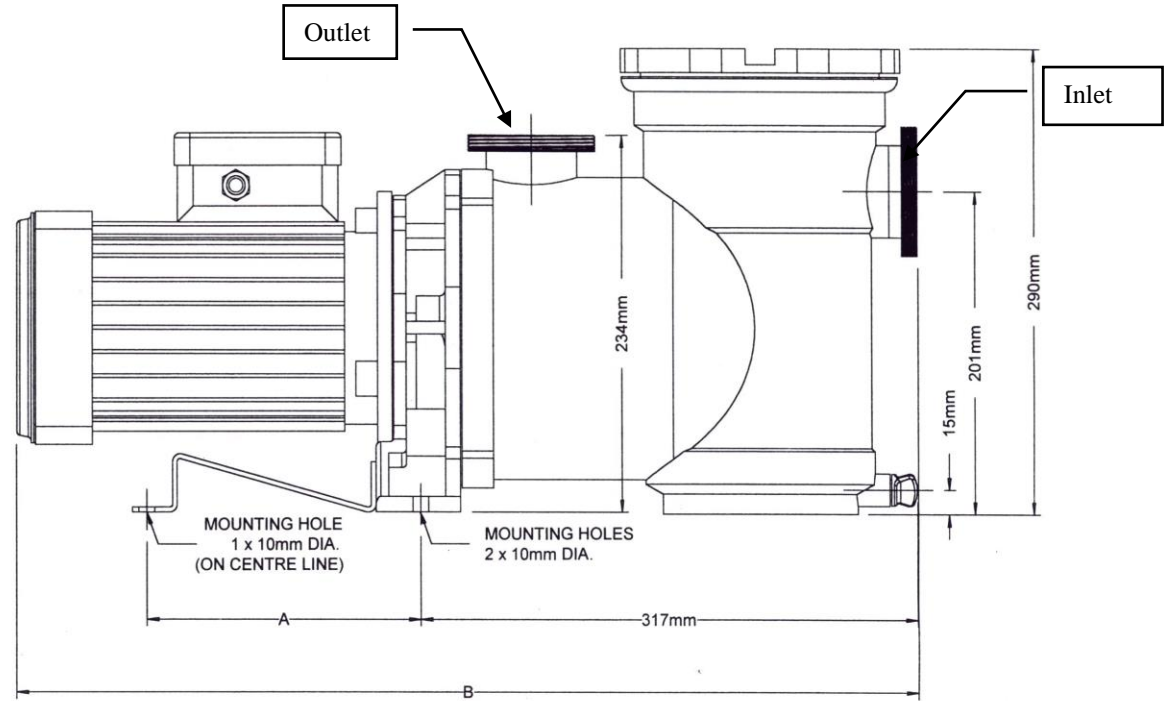
**BRAUDE SELF PRIMING CHEMICAL PUMP**



J SERIES PUMP MOUNTING DIMENSIONS

	A (mm)	B (mm)
1 - Phase:		
J50ECX	144	548
J75ECX	164	548
J100ECX	164	548
J150ECX	164	578
J200ECX	174	578
J250ECX	174	578
3 - Phase:		
J50ECX	144	548
J75ECX	164	548
J100ECX	164	545
J150ECX	164	574
J200ECX	174	575
J250ECX	174	582

**BRAUDE**



ISSUE MARCH 2004