Rotating devices for erythrocytes

Erythrocytes lose some of their activity under conventional conditions of static storage at temperatures between +2°C and +6°C (max. 48 days) in nutritive solutions due to time-dependent stacking at rest.
The Red Cross in Innsbruck has established that samples that were stirred several times during storage displayed greater viability. Furthermore, other data suggest that stored RBCs should be stirred or thoroughly mixed at least once per week.
The BOS S 3000/86 storage system from **NSC** Medical Cooling Systems GmbH, developed by NNC-MED Consulting, incorporates this as a standard feature. A new development by NNC, the BOS S RBG storage system, can also be supplied with a rotating unit on request.

'Cascade', the new cell concept from NNC-MED Consulting

Current cold rooms are designed with an insulating wall so as to keep heat from penetrating into the interior for as long as possible. Advanced designs incorporate super vacuum insulation panels.
NNC uses a different technique to optimize cooling -- a double-wall design incorporating two insulation panels of equal thickness that are separated by a plenum chamber.
Cooling is effected with (LN2); the decompressed N2 then cools the plenum. This triple-layer separation of the internal environment from external temperatures results in a greatly extended warm-up time of the internal space and the stored products.

Experiments in a test cell (4,000 mm wide / 6,000 mm high / 6,000 mm deep) at the Development Centre yielded the following results:

Warm-up after turning off the cooling:

-40°C to -30°C	29 hours	0.35 K/h
-30°C to -20°C	30 hours	0.33 K/h
-20°C to -10°C	42 hours	0.23 K/h
-10°C to 0°C	54 hours	0.18 K/h

We would be happy to develop the right design and optimize operating procedures for you.

The combination of cost-containment, improved products and more reliable work processes is a worthwhile goal that we can help you achieve.